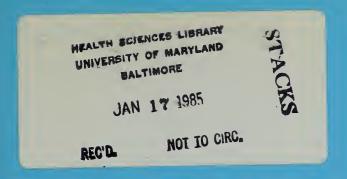


NOT TO CIRCUITATE

NOT TO CERCULARITE

Digitized by the Internet Archive in 2016



Vol. 78, No. 1 ● January, 1985

Journal of the

STACKS ST

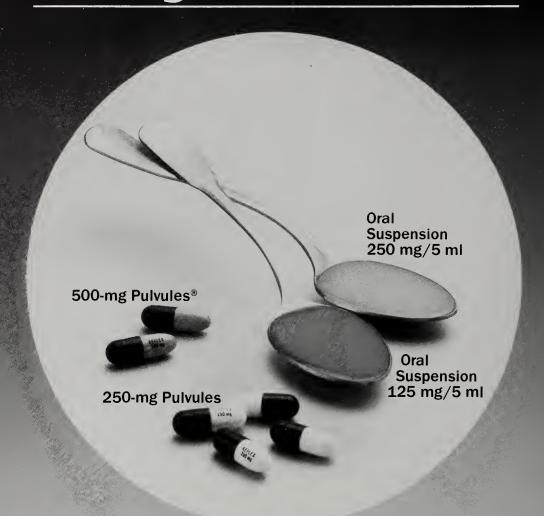


SERIALS DEPARTMENT HEALTH SCIENCE LIBRARY III S GREENE ST BALTIMORE MD SI201



TENNESSEE MEDICAL ASSOCIATION
150th Annual Meeting
April 10-13, 1985
Hyatt Regency Hotel
Memphis, Tennessee

Easy To Take



Keflex[®] cephalexin

Additional information available to the profession on request.



Dista Products Company
Division of Eli Lilly and Company
Indianapolis, Indiana 46285
Mfd. by Eli Lilly Industries, Inc.
Carolina, Puerto Rico 00630

journal of the ennessee medical association

Vol. 78, No. 1 January, 1985

Office of Publication

112 Lauise Ave., Nashville, 37203 (615) 327-1451

EDITOR

John B. Thomison, M.D. P.O. Bax 70 Nashville, 37202

BUSINESS MANAGER

L. Hadley Williams

MANAGING EDITOR

Jean-Wishnick

TMA OFFICERS

PRESIDENT

Thomas K. Ballard, M.D. 418 E. Baltimore Jackson, 38301

PRESIDENT-ELECT

Clarence R. Sanders, M.D. 575 E. Bledsoe Gallatin, 37066

CHAIRMAN, BOARD OF TRUSTEES Luthur A. Beazley, Jr., M.D. 2614 Old Lebanon Rd. Nashville, 37214

TMA EXECUTIVE STAFF

EXECUTIVE DIRECTOR L. Hadley Williams

ASSISTANT EXECUTIVE DIRECTOR Donald H. Alexander

DIRECTOR OF

CONTINUING MEDICAL EDUCATION James D. Ingram

> **EXECUTIVE ASSISTANT** William V. Wallace

> **EXECUTIVE ASSISTANT**

Thomas Wilkerson **EXECUTIVE ASSISTANT**

Ron E. Gant

STAFF ATTORNEY Jack Fosbinder

The Jaurnal of the Tennessee Medical Association ISSN 0040-3318

Published monthly under the direction of the Board of Trustees for and by members of the Tennessee Medical Association, a nonprofit organization with a definite membership for scientific and educational

Devoted to the interests of the medical profession of Tennessee. This Association does not officially endorse opinions presented in different popers published herein. Advertisers must conform to policies and regulations established by the Board of Trustees of the Tennessee Medical Association. Subscriptions (nonmembers) \$16 per year for US, \$22 for Canada and foreign. Single copy \$2. Payment of Tennessee Medical Association membership dues includes the subscription

price of this Journal.
Copyright 1985, Tennessee Medical Association. All material subject to this copyright appearing in the Journal may be photocopied for noncommercial scientific or educational use only. Second Class postage paid at Nashville, TN. POSTMASTER: Send address changes to Journal of the Tennessee Medical Association, 112 Louise Ave. Nashville, TN 37203.

content

Original Contributions

- Alzheimer's Disease-A Major Health Problem-Joseph C. Parker, Jr., M.D.
- 13 Dementia of the Alzheimer's Type: Clinical Overview-Laura B. Powers, M.D.; John H. Dougherty, Jr., M.D.
- Management of Alzheimer's Disease—James A. Greene, M.D.; Marianne O'Brien, R.N.; Woody Johnson, ACSW; Terry E. Good, MPH
- 25 Acute Endogenous Endophthalmitis After Splenectomy—Clark R. Gregg, M.D.; Stuart Tucker, Jr., M.D.
- 27 A Survey of Health Promotion Programs of Tennessee Employers— Steve M. Dorman, MPH, Ph.D.

Regular Features

- Health and Environment Report-Infant High Risk Registry in Tennessee
- Loss Prevention Case of the Month-Vicarious Liability and the Physician's Assistant

Special Features

Special Communication—I Have What?—Illness and the Medical Profession (Whom I Admire)-F. Benton Miller

TMA Organizational

34 From the Auxiliary—Unity = Strength

President's Page

37 Teenagers

Editorials

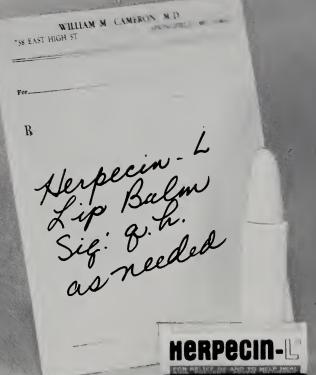
- Happy Second Half of the 1980s
- **Special Spouse Space**
- Daytime Thoughts on Listening to Beethoven's Ninth: Up the Slough and Out Again

News

- **National News**
- **Announcements**
- **Continuing Medical Education Opportunities**

- In Memoriam
- 41 **New Members**
- 41 **Personal News**
- **PRA Recipients** 42 **Placement Service** 55
- Information for Authors 56
- Advertisers in this Issue

Dx: recurrent herpes labialis



"Herpecin-L Lip Balm is the treatment of choice for peri-oral herpes." GP, New York

"In the management of herpes labialis, Herpecin-L is a conservative approach with low risk / high benefit." Derm., Miami

"Staff and patients find Herpecin-L remarkably effective." Derm., New Orleans

OTC. See *P.D.R.* for information. For trade packages to make your own clinical evaluation, write:

CAMPBELL LABORATORIES INC.
P.O. Box 812-M, FDR, NY, NY 10150

In Tennessee, "HERPECIN-L" Cold Sore Lip Balm is available at all *Eckerd*, *Revco*, Super D and SupeRx Drug Stores and other select pharmacies.

journal of the tennessee medical association

Vol. 78, No. 2 February, 1985

Office of Publication 112 Louise Ave., Nashville, 37203

(615) 327-1451

EDITOR

John B. Thomison, M.D. P.O. Box 70 Nashville, 37202

BUSINESS MANAGER

L. Hadley Williams

MANAGING EDITOR

Jean Wishnick

TMA OFFICERS

PRESIDENT Thomas K. Bollard, M.D. 418 E. Baltimore Jackson, 38301

PRESIDENT-ELECT

Clorence R. Sanders, M.D. 575 E. Bledsoe Gallotin, 37066

CHAIRMAN, BOARD OF TRUSTEES Luthur A. Beazley, Jr., M.D. 2614 Old Lebanon Rd. Nashville, 37214

TMA EXECUTIVE STAFF

EXECUTIVE DIRECTOR L. Hadley Williams

ASSISTANT EXECUTIVE DIRECTOR Donald H. Alexander

CONTINUING MEDICAL EDUCATION James D. Ingram

EXECUTIVE ASSISTANT

William V. Wallace

EXECUTIVE ASSISTANT Thomas Wilkerson

EXECUTIVE ASSISTANT

Ron E. Gant

STAFF ATTORNEY

Jack Fosbinder

The Journal of the Tennessee Medical Association ISSN 0040-3318

Published monthly under the direction of the Baard af Trustees far ond by members of the Tennessee Medical Associotian, o nonprofit argonization with o definite membership for scientific and educational

Devated to the interests of the medical profession of Tennessee. This Association does not afficiolly endorse apinians presented in different popers published herein. Advertisers must canfarm to policies and regulations established by the Board of Trustees of the Tennessee Medical Associotion. Subscriptians (nonmembers) \$16 per year far US, \$22 far Conada ond foreign. Single copy \$2. Poyment af Tennessee Medical Associotian membership dues includes the subscription

price of this Journal.
Capyright 1985, Tennessee Medical Associotion. All moterial subject to this capyright appearing in the Journal may be phatocopied for nan-cammercial scientific or educational use only.

Second Class postage paid at Noshville, TN.
POSTMASTER: Send address changes to Jaurnol af the Tennessee Medical Associotion, 112 Louise Ave. Noshville, TN 37203.

content

Original Contributions

- 73 The Nashville Experience With Scalene Node Biopsy—A Procedure of Limited Application—Robert W. Ikard, M.D.
- The Development of Clinical Neurology in Tennessee—Frank R. Freemon, M.D.
- Pancreatic Carcinoma Presenting With isolated Bieeding Gastric Varices-Juan J. Alberti-Flor, M.D.; Jan Evans, M.D.; G. Dewey Dunn,

Special Features

TMA Annual Meeting Timetable-April 10-13, 1985, Memphis, Tennessee

Regular Features

- 86 Medical Grand Rounds—Cyanotic Congenital Heart Disease in Adults
- Trauma Rounds—Hepatic Trauma
- Loss Prevention Case of the Month—Communication Through the Record
- 98 **CAT Scan of the Month**
- Health and Environment Report-Immunization Survey of 24-Month-Old Children for 1984

President's Page

105 The Select Committee

Editorials

106 Son of Pizroe

107 Colors

News

- 110 Announcements
- 116 Continuing Medical Education Opportunities

Departments

- 108 **Our Mail Box**
- 109 in Memoriam
- 109 **New Members**
- **Personal News** 110
- **PRA Recipients** 110

122

- **Piacement Service** 121
- 122 Advertisers in this issue

information for Authors

There is a Name for Quality Psychiatric Car

And Here's Where The



journal of the ennessee medical association

Vol. 78, No. 3 March, 1985

Office of Publication

112 Lauise Ave., Nashville, 37203 (615) 327-1451

FDITOR

John B. Thomison, M.D. P.O. Bax 70 Nashville, 37202

BUSINESS MANAGER

L. Hadley Williams

MANAGING EDITOR

Jean Wishnick

TMA OFFICERS

PRESIDENT

Thomas K. Ballard, M.D. 418 E. Baltimore Jackson, 38301

PRESIDENT-ELECT Clarence R. Sanders, M.D. 575 E. Bledsoe

Gallatin, 37066 CHAIRMAN, BOARD OF TRUSTEES Luthur A. Beazley, Jr., M.D.

2614 Old Lebanon Rd. Nashville, 37214

TMA EXECUTIVE STAFF

EXECUTIVE DIRECTOR L. Hadley Williams

ASSISTANT EXECUTIVE DIRECTOR Danald H. Alexander

DIRECTOR OF CONTINUING MEDICAL EDUCATION James D. Ingram

> **EXECUTIVE ASSISTANT** William V. Wallace

> **EXECUTIVE ASSISTANT** Thamas Wilkerson

> **EXECUTIVE ASSISTANT**

Ron E. Gant

STAFF ATTORNEY Jack Fosbinder

The Journal of the Tennessee Medical Association ISSN 0040-3318

Published monthly under the direction of the Board of Trustees for and by members of the Tennessee Medical Association, a nonprofit organization with a definite membership for scientific and educational purposes.

Devoted to the interests of the medical profession of Tennessee. This Association does not officially endorse opinions presented in different papers published herein. Advertisers must conform to policies and regulations established by the Board of Trustees of the Tennessee Medical Association. Subscriptions (nonmembers) \$16 per year for US, \$22 for Canada and foreign. Single copy \$2.
Payment of Tennessee Medical Association
membership dues includes the subscription

price of this Journal.
Copyright 1985, Tennessee Medical Association. All material subject to this copyright appearing in the Journal may be photocopied for non-commercial scientific or educational use only. Second Class postage poid at Nashville, TN.
POSTMASTER: Send address changes to
Journal of the Tennessee Medical
Association, 112 Louise Ave., Nashville, TN 37203

content

Original Contributions

- Bilateral Wilms' Tumor: 18-Year Follow-Up of Patient Treated Only With Surgery—Robert D. Proffitt, M.D.; James N. Proffitt, M.D.
- Adenocarcinoma of the Esophagus Associated With Neurofibromatosis-Gnana Desigan, M.D.; G. Dewey Dunn, M.D.; Susan Halter,
- The Developmental Screening and Referral Practices of Physicians in Tennessee-Frances P. Glascoe, Ed.S.; Robert L. VanDervoort, Jr., M.D.

Special Features

Special Item-Enough is Enough-Address of the AMA President-Joseph F. Boyle, M.D.

Regular Features

- Trauma Rounds—Blunt Anorectal Injuries in Children
- Loss Prevention Case of the Month—If Only I Had Seen Him . . .
- Geriatric MedicIne—Exercises in the Elderly—Benefits, Precautions and Recommendations
- Health and Environment Report—Southern Regional Task Force on Infant Mortality

TMA Organizational

Highlights of the TMA Board of Trustees Meeting-January 12-13, 1985

President's Page

171 Our Medical Association

Editorials

- 172 A Call to Arms
- On Doing Something About the Weather
- On Beating a Dead Horse

News

186

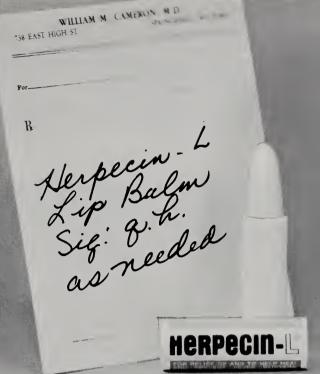
- 176 Announcements
- 182 Continuing Medical Education Opportunities

Departments

- In Memoriam
- 175 **New Members**
- **PRA Recipients**
- **Placement Service**
- Information for Authors

Advertisers in this Issue

Dx: recurrent herpes labialis



"Herpecin-L Lip Balm is the treatment of choice for peri-oral herpes." GP, New York

"In the management of herpes labialis, Herpecin-L is a conservative approach with low risk / high benefit." Derm., Miami

"Staff and patients find Herpecin-L remarkably effective." Derm., New Orleans

OTC. See *P.D.R.* for information. For trade packages to make your own clinical evaluation, write:

CAMPBELL LABORATORIES INC.
P.O. Box 812-M, FDR, NY, NY 10150

In Tennessee, "HERPECIN-L" Cold Sore Lip Balm is available at all *Eckerd*, *Revco*, Super D and SupeRx Drug Stores and other select pharmacies.

CIBA



reserpine 0.1 mg, hydralazine hydrochloride 25 mg, hydrochlorothiazide 15 mg

journal of the tennesses are a constant are a const

Vol. 78, No. 4 April, 1985

Office of Publication

112 Louise Ave., Nashville, 37203 (615) 327-1451

EDITOR

John B. Thamisan, M.D. P O. Box 70 Nashville, 37202

BUSINESS MANAGER

L Hadley Williams

MANAGING EDITOR

Jean Wishnick

TMA OFFICERS

PRESIDENT

Thomas K. Ballard, M.D. 418 E. Baltimore Jackson, 38301

PRESIDENT-ELECT Clarence R. Sanders, M.D. 575 E. Bledsoe Gallatin, 37066

CHAIRMAN, BOARD OF TRUSTEES Luthur A. Beazley, Jr., M.D. 2614 Old Lebanon Rd. Nashville, 37214

TMA EXECUTIVE STAFF

EXECUTIVE DIRECTOR

L. Hadley Williams

ASSISTANT EXECUTIVE DIRECTOR

Danald H. Alexander

DIRECTOR OF CONTINUING MEDICAL EDUCATION James D. Ingram

EXECUTIVE ASSISTANT William V. Wallace

EXECUTIVE ASSISTANT
Thamas Wilkersan

EXECUTIVE ASSISTANT

Ran E. Gant STAFF ATTORNEY

Jack Fosbinder
The Journal of the Tennessee
Medical Association
ISSN 0040-3318

Published monthly under the direction of the Board of Trustees for and by members of the Tennessee Medical Association, a nonprofit arganization with a definite membership far scientific and educational

Devated to the interests of the medical profession of Tennessee. This Association does not officially endorse apinions presented in different papers published herein. Advertisers must conform to palicies and regulations established by the Baard of Trustees of the Tennessee Medical Association. Subscriptians (nonmembers) \$16 per year for US, \$22 for Canada and foreign. Single capy \$2. Payment of Tennessee Medical Association membership dues includes the subscription price of this Journal. Copyright 1985, Tennessee Medical Association.

Copyright 1985, Tennessee Medical Assaciation.
All material subject to this copyright appearing in
the Journal may be photocopied for noncammercial scientific ar educational use only.
Second Class postage paid at Nashville, TN.
POSTMASTER: Send address changes to
Journal of the Tennessee Medical
Association, 112 Lauise Ave.,
Nashville, TN 37203.

content

Original Contributions

205 Electronic Media Claims—Thurman L. Pedigo, Sr., M.D.

Special Features

- **210 Special Communication**—Cockfighting and Boxing: A Parallel and Paradox—*Rudra Prakash, M.D.*
- 211 Special Item—Contracting Questions for Physicians—Alternate Delivery Systems
- 244 The New President—Clarence R. Sanders, M.D.

Regular Features

- 219 Medical Grand Rounds—CABG: Have the Indications Changed?
- 224 Trauma Rounds—Blunt Duodenal Disruption
- **227 Geriatric Medicine**—Home Health Care vs. Nursing Home Care of the Elderly—*James S. Powers, M.D.; Candice Burger, Ph.D.*
- 232 Loss Prevention Case of the Month—Our Goal: Preventing or Minimizing the Patient Injury
- 234 Health and Environment Report—Statewide Genetics Program

President's Page

243 The Swan Song

Editorials

- 246 To Belong or Not To Belong
- 247 A Medical Grand Present
- 249 On Climbin' Jacob's Ladder

News

- 253 Announcements
- 254 Continuing Medical Education Opportunities

- 249 Our Mail Box
- 251 In Memoriam
- 251 New Members
- 252 Personal News
- 252 PRA Recipients
- 257 Placement Services
- 258 Information for Authors
- 258 Advertisers in this Issue

There is a Name for Quality Psychiatric Car

And Here's Where The



journal of the tennesses medical association

Vol. 78, No. 5 May, 1985

Office of Publication

112 Louise Ave., Nashville, 37203 (615) 327-1451

EDITOR

Jahn B. Thamison, M.D. P.O. Bax 70 Nashville, 37202

BUSINESS MANAGER

L. Hadley Williams

MANAGING EDITOR

Jean Wishnick

TMA OFFICERS

PRESIDENT Thomas K. Ballard, M.D. 418 E. Baltimore Jacksan, 38301

PRESIDENT-ELECT

Clarence R. Sanders, M.D. 575 E. Bledsoe Gallatin, 37066

CHAIRMAN, BOARD OF TRUSTEES Luthur A. Beazley, Jr., M.D. 2614 Old Lebanon Rd. Nashville, 37214

TMA EXECUTIVE STAFF

EXECUTIVE DIRECTOR

L. Hadley Williams

ASSISTANT EXECUTIVE DIRECTOR

Danald H. Alexander

DIRECTOR OF

CONTINUING MEDICAL EDUCATION

James D. Ingram

EXECUTIVE ASSISTANT
William V Wallace

EXECUTIVE ASSISTANT

Thamas Wilkerson

EXECUTIVE ASSISTANT Ron E. Gant

> STAFF ATTORNEY Jack Fosbinder

The Journal of the Tennessee Medical Association ISSN 0040-3318

Published monthly under the direction of the Board of Trustees for ond by members of the Tennessee Medical Association, o nonprofit organization with a definite membership for scientific and educational purposes.

Devoted to the interests of the medical profession of Tennessee. This Association does not officially endorse opinions presented in different popers published herein. Advertisers must conform to policies and regulations established by the Board of Trustees of the Tennessee Medical Association. Subscriptions (nonmembers) \$16 per year for US, \$22 for Conodo and foreign. Single copy \$2. Payment of Tennessee Medical Association membership dues includes the subscription price of this Journal. Copyright 1985, Tennessee Medical Association.

Copyright 1985, Tennessee Medicol Association.
All material subject to this copyright appearing in the Journal may be photocopied for non-commercial scientific or educational use only.
Second Class postage paid at Nashville, TN.
POSTMASTER: Send address changes to Journal of the Tennessee Medical Association, 112 Louise Ave.,
Nashville, TN 37203.

content

Original Contributions

- 271 Extrapulmonary Tuberculosis in Tennessee from 1977-1981—

 Jayant B. Mehta, M.D.; Daniel Kasprzyk, M.D.; Leo M. Harvill, Ph.D.;

 H. R. Anderson, M.D.
- 276 Heaith information Services Provided by Tennessee Consultants— Karen T. Hackleman

Regular Features

- 287 Trauma Rounds—Use of Wick Catheter Compartment Measurements in the Vascular Trauma Patient
- 289 Geriatric Medicine—Health Care for Older Citizens: Overcoming Barriers
- 294 EKG of the Month
- 297 Loss Prevention Case of the Month—Responsibilities of Prescribing
- 298 Health and Environment Report—Hypertension—A Public Health Problem

Special Features

- 315 Minutes of the Tennessee State Board of Medicai Examiners Meeting—October 31, 1984
- 317 Minutes of the Tennessee State Board of Medical Examiners Meeting—February 20, 1985

President's Page

305 Facing the Future

Editorials

- 306 Work Like Heil and Advertise
- 307 State Medical Board Minutes
- 308 Semi-Literate illegitimacy, or, illegitimate Semi-Literacy

News

- 310 Announcements
- 312 Continuing Medicai Education Opportunities

- 308 in Memoriam
- 309 PRA Recipients
- 309 New Members
- 310 Personal News
- 323 Placement Service
- 324 information for Authors
- 324 Advertisers in this issue

This Group Insurance Plan is Designed Specifically for the Needs of Physicians and Their Employees at Better than Competitive Rates.

IT PAYS TO BELONG.

How it Works The Benefits

DEDUCTIBLE

- 4 Deductible Options:
- •\$100.00 •\$500.00
- \$250.00
 - •\$1,000.00

PLAN PAYS

80%

of the first \$5,000 of Eligible Expenses in a Calendar Year

MEMBER PAYS 20%

PLAN THEN PAYS 100%

of Eligible Expenses for the remainder of the Calendar Year up to a maximum of

\$1.000.000

- Special Out-Patient Surgical Benefit:
- Special Out-Patient Accidental Injury Benefit:
- Special Out-Patient **Pre-Admission Testin** Benefit:
- Special Maternity Benefit:
- Special Mental and Nervous/Alcohol an Drug Abuse Benefit

ADMINISTERED BY:



Insurance Planning and Service Compo 822 McCallie Avenue P.O. Box 1109 Chattanooga, TN 37401

Call Toll-Free (TN Residents) 1-800-572-7389

Non-Tennessee residents 0-615-756-2850 (Call Collect)

The Official TMA \$1,000,000 Medical Insurance Plan.



Underwritten by Blue Cross/Blue Shield of Mempl

journal of the tennesses medical association

Vol. 78, No. 6 June, 1985

Office of Publication

112 Louise Ave., Noshville, 37203 (615) 327-1451

EDITOR

John B. Thomison, M.D. P O Box 70 Nashville, 37202

BUSINESS MANAGER

L Hadley Williams

MANAGING EDITOR

lean Wishnick

TMA OFFICERS

PRESIDENT Clarence R. Sonders, M.D. 575 E. Bledsoe Gallatin, 37066

> PRESIDENT-ELECT James R. Royal, M.D. 5502 Brainerd Road Chattonooga, 37411

CHAIRMAN, BOARD OF TRUSTEES John R. Nelson, Jr., M.D. 989 Emerald Ave. Knoxville, 37917

TMA EXECUTIVE STAFF

EXECUTIVE DIRECTOR
L Hadley Williams

ASSISTANT EXECUTIVE DIRECTOR

Donald H Alexander

DIRECTOR OF CONTINUING MEDICAL EDUCATION

James D. Ingram

EXECUTIVE ASSISTANT William V. Wallace

EXECUTIVE ASSISTANT

Thomas Wilkerson EXECUTIVE ASSISTANT

Ron E. Gant

STAFF ATTORNEY Jack Fosbinder

The Journal of the Tennessee Medical Association ISSN 0040-3318

Published monthly under the direction of the Boord of Trustees for ond by members of the Tennessee Medicol Association, a nonprofit organization with a definite membership for scientific and educational

Devoted to the interests of the medical profession of Tennessee. This Association does not officially endorse opinions presented in different papers published herein. Advertisers must conform to policies and regulations established by the Board of Trustees of the Tennessee Medical Association. Subscriptions (nonmembers) \$16 per year for US, \$22 for Conado and foreign. Single copy \$2. Payment of Tennessee Medical Association membership dues includes the subscription frice of this Journal.

Copyright 1985, Tennessee Medical Association.
All material subject to this copyright oppearing in the Journal may be photocopied for non-commercial scientific or educational use only.
Second Class postage poid at Noshville, TN.
POSTMASTER: Send address changes to Journal of the Tennessee Medical
Association, 112 Lauise Ave.,
Noshville, TN 37203.

content

Proceedings

- 341 Index to Proceedings
- 343 Abstract of the Proceedings of the House of Delegates of the Tennessee Medical Association, Memphis, Tennessee, April 10-13, 1985
- 358 Photographic Highlights of the TMA's 150th Annual Meeting

TMA Organizational

- 392 Highlights of the TMA Board of Trustees Meetings—April 10 and April 13, 1985
- 395 Component Society Officers 1985-1986
- 396 Officers and Committee Members 1985-1986

President's Page

381 Back to Basics

Editorials

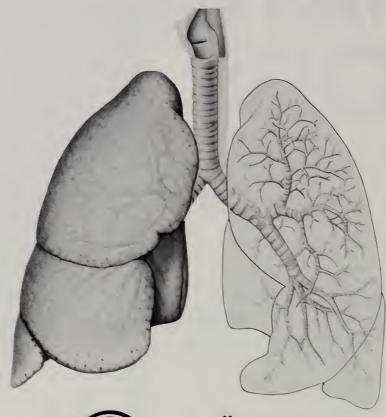
- 382 The Cattle on a Thousand Hills
- 383 On Being Human

News

- 386 Announcements
- 400 Continuing Medical Education Opportunities

- 384 In Memoriam
- 385 New Members
- 385 PRA Recipients
- 386 Personal News
- 405 Placement Service
- 406 Information for Authors
- 406 Advertisers in this Issue

Consider the causative organisms...



COIOF® Cefacior

250-mg Pulvules t.i.d.

offers effectiveness against the major causes of bacterial bronchitis

H. influenzae, H. influenzae, S. pneumoniae, S. pyogenes (ampicillin-susceptible) (ampicillin-resistant)



journal of the tennesses are a processed and the tennesses are a processes

Vol. 78, No. 7 July, 1985

Office of Publication

112 Lauise Ave , Nashville, 37203 (615) 327-1451

EDITOR

Jahn B Thamisan, M D P O Bax 70 Nashville, 37202

BUSINESS MANAGER

L Hadley Williams

MANAGING EDITOR

Jean Wishnick

TMA OFFICERS

PRESIDENT

Clarence R. Sanders, M.D. 575 E. Bledsoe Gallatin, 37066

PRESIDENT-ELECT

James R. Rayal, M.D. 5502 Brainerd Raad Chattanaaga, 37411

CHAIRMAN, BOARD OF TRUSTEES Jahn R. Nelsan, Jr., M.D. 989 Emerald Ave. Knoxville, 37917

TMA EXECUTIVE STAFF

EXECUTIVE DIRECTOR

L Hadley Williams

ASSISTANT EXECUTIVE DIRECTOR

Danald H Alexander

Danald H Alexander

CONTINUING MEDICAL EDUCATION

James D Ingram

EXECUTIVE ASSISTANT William V Wallace

EXECUTIVE ASSISTANT Thomas Wilkerson

EXECUTIVE ASSISTANT

Ran E Gant

STAFF ATTORNEY Jack Fasbinder

The Journal of the Tennessee Medical Association ISSN 0040-3318

Published monthly under the direction of the Board of Trustees for and by members of the Tennessee Medical Association, a nonprofit organization with a definite membership for scientific and educational

Devoted to the interests of the medical profession of Tennessee. This Association does not officially endorse opinions presented in different papers published herein. Advertisers must conform to palicies and regulations established by the Board of Trustees of the Tennessee Medical Association. Subscriptions (nonmembers) \$16 per year for US, \$22 for Canada and foreign. Single capy \$2. Payment of Tennessee Medical Association membership dues includes the subscription price of this Journal.

Capyright 1985, Tennessee Medical Association.
All material subject to this capyright appearing in
the Journal may be photocopied for noncommercial scientific or educational use only.
Second Class pastage paid at Noshville, TN
POSTMASTER: Send address changes to
Jaurnal of the Tennessee Medical
Association, 112 Louise Ave,
Noshville, TN 37203.

content

Original Contributions

- 419 Rupture of the Liver in Preeclampsia—A Review and Report of Two Cases—Pleas Copas, M.D.; Michael Dyer, M.D.; Hobart Akin, M.D.; Eugene Linton, M.D.
- 422 Osteogenic Sarcoma of the Breast—A Case Report—J. L. Farringer, Jr., M.D.

Regular Features

- 429 Trauma Rounds—Management of Subclavian Vascular Injuries
- 431 Geriatric Medicine-Psychotropic Drug Use in Older People
- **436** Roentgenogram of the Month—Pulmonary Tuberculosis With Peripheral Neuropathy—The Importance of a Lateral Chest Film
- 438 CAT Scan of the Month
- 439 Health and Environment Report—High Risk Registry Update
- 440 Loss Prevention Case of the Month—The Good Doctor—The Bad

Special Features

- **460** Special Communication—Durable Medical Equipment Reimbursement Changes—Daniel K. Wilson
- 463 Minutes of the State Board of Medical Examiners Meeting— March 19, 1985

President's Page

445 Our Declining Image

Editorials

- 446 In the Name of the Law
- 447 Remove Not the Ancient Landmarks
- 450 Guest Editorial

News

- 452 Announcements
- 457 Continuing Medical Education Opportunities

- 450 New Members
- 451 Personal News
- 451 PRA Recipients
- 467 Placement Service
- 468 Information for Authors468 Advertisers in this Issue

Put **ZOR**pin (ASPIRIN) Zero-Order Release in your circle of arthritic therapy



ZORprin® provides 800 mg of aspirin in a unique, patented zero-order release delivery system.

Convenient two-tablet, b.i.d. dosage

- Easy-to-remember regimen improves compliance
- 24-hour pain relief

Efficacy comparable to NSAIs

• Helps reduce morning stiffness and nighttime pain

Side effect profile superior to plain aspirin... comparable to NSAIs

- ZORprin® is economical arthritic therapy
- Prescription only
 The ideal method to maintain therapeutic control



Pioneers in medicine for the family



Boots Pharmaceuticals, Inc. 6540 LINE AVENUE, PO. BOX 6750 SHREVEPORT, LOUISIANA 71106-9989

See brief summary of prescribing information on next page.

journal of the tennesses association

Vol. 78, No. 8 August, 1985

Office of Publication

112 Louise Ave , Nashville, 37203 (615) 327-1451

EDITOR

John B Thamison, M D P O Box 70 Nashville, 37202

BUSINESS MANAGER

L Hadley Williams

MANAGING EDITOR

Jean Wishnick

TMA OFFICERS

PRESIDENT

Clarence R. Sanders, M.D. 575 E. Bledsoe Gollotin, 37066

> PRESIDENT-ELECT Jomes R. Royal, M.D. 5502 Brainerd Rood Chottonoogo, 37411

CHAIRMAN, BOARD OF TRUSTEES John R. Nelson, Jr., M.D. 989 Emerold Ave. Knoxville, 37917

TMA EXECUTIVE STAFF

EXECUTIVE DIRECTOR

L Hadley Williams

ASSISTANT EXECUTIVE DIRECTOR

Donold H Alexander

DIRECTOR OF CONTINUING MEDICAL EDUCATION Jomes D Ingram

EXECUTIVE ASSISTANT

William V Wollace EXECUTIVE ASSISTANT

Thomos Wilkerson

EXECUTIVE ASSISTANT Ron E Gant

STAFF ATTORNEY

Jock Fosbinder

The Journal of the Tennessee Medical Association ISSN 0040-3318

Published monthly under the direction of the Board of Trustees for and by members of the Tennessee Medical Association, a nonprofit organization with a definite membership for scientific and educational purposes.

Devoted to the interests of the medical profession of Tennessee. This Association does not officially endorse opinions presented in different papers published herein. Advertisers must conform to policies and regulations established by the Board of Trustees of the Tennessee Medical Association. Subscriptions (nanmembers) \$16 per year for US, \$22 for Canada and foreign. Single copy \$2. Payment of Tennessee Medical Association membership dues includes the subscription price of this Journal.

Copyright 1985, Tennessee Medical Association.
All material subject to this copyright appearing in the Journal may be photocopied for non-commercial scientific or educational use only.
Second Class postage paid at Nashville, TN.
POSTMASTER: Send address changes to Journal of the Tennessee Medical
Association, 112 Louise Ave.,
Nashville, TN 37203.

content

Original Contributions

- 485 Gore-Tex Femoropopliteal Grafts: Forty-Month Experience in a Community Hospital—James E. Chapman, Jr., M.D.; Janis A. Morgan, R.N.
- 489 Phenothiazine Associated Hyperthermia—A Case Report—David E. Roberts. M.D.
- 491 Acute Lead Poisoning From the Betel Nut—A Case Report—Louis Cunningham, M.D.; Theophilus Worrel, M.D.; John Leflore, M.D.
- 493 Chronic Pain in Adults With a History of Childhood Sexual Abuse—Winston C.V. Parris, M.D.; Robert N. Jamison, Ph.D.
- 496 Spondylolisthesis After Spinal Fusion With an Intact Neural Arch—A Case Report—E. L. Cashion, M.D.; Stephen N. Barnes, M.D.

Regular Features

- 503 Medical Grand Rounds—Acute Lymphoblastic Leukemia: Determinants of Response to Therapy
- 508 Trauma Rounds—Diagnosis and Management of Blunt Bronchial Injury
- 510 CAT Scan of the Month—Multiple Calcified Hepatic Lesions
- 512 Health and Environment Report—Oral Disease in Tennessee
- 514 Loss Prevention Case of the Month—Twice the Doctors, Half the Care

President's Page

523 The Elderly Deserve Our Compassion

Editorials

- 524 Intimations of Immortality
- 526 Sweet Bitterness (Or Bitter Sweetness)

News

- 528 Announcements
- 531 Continuing Medical Education Opportunities

- 527 In Memoriam
- 527 PRA Recipients
- 528 New Members
- 528 Personal News
- 537 Placement Service
- 538 Information for Authors 538 Advertisers in this Issue

Call On Someone You Can Trust.

Because you want to entrust your patients to the best professional care, Saint Albans is a logical choice for your psychiatric referrals.

Since 1916, Saint Albans Psychiatric Hospital has provided a spectrum of care for emotional disorders.

Today, we also offer specialized, fully accredited programs for adolescents, alcoholics, and substance abusers. We have special programs for senior adults and treatment of eating disorders. And we offer day treatment as an alternative to hospitalization.



Care is provided by our medical and professional staffs in a beautiful, modern hospital secluded along the New River. Admission can be arranged 24 hours a day. And all programs and services are approved for Blue Cross, Medicare, Champus, and most commercial insurance carriers.

At Saint Albans, we've built our reputation on the trust of referring

physicians who want the best for their patients. That's why you can refer to

Saint Albans with confidence.



Saint Albans Psychiatric Hospital Private, Not For Profit Psychiatric Care

P.O. Box 3608 Radford, Virginia 24143 1-800-368-3468

Active Medical Staff:

Rolfe B. Finn, M.D. Medical Director Davis G. Garrett, M.D. Hal G. Gillespie, M.D. G. Paul Hlusko, M.D. Ronald L. Myers, M.D. Basil E. Roebuck, M.D. O. LeRoyce Royal, M.D. Morgan E. Scott, M.D. Don L. Weston, M.D. *Psychiatric Consultant* D. Wilfred Abse, M.D.

journal of the tennesses medical association

Vol. 78, No. 9 September, 1985

Office of Publication

112 Louise Ave , Nashville, 37203 (615) 327-1451

EDITOR

John B Thomison, M D P O Box 70 Nashville, 37202

BUSINESS MANAGER

L Hadley Williams

MANAGING EDITOR

Jean Wishnick

TMA OFFICERS

PRESIDENT Clarence R. Sanders, M.D. 575 E. Bledsoe Gallatin, 37066

> PRESIDENT-ELECT James R. Royal, M.D. 5502 Brainerd Road Chattanooga, 37411

CHAIRMAN, BOARD OF TRUSTEES John R. Nelson, Jr., M.D. 989 Emerald Ave. Knoxville, 37917

TMA EXECUTIVE STAFF

EXECUTIVE DIRECTOR

L Hadley Williams

ASSISTANT EXECUTIVE DIRECTOR

Donald H Alexander

DIRECTOR OF CONTINUING MEDICAL EDUCATION James D Ingram

EXECUTIVE ASSISTANT William V Wallace

EXECUTIVE ASSISTANT Thomas Wilkerson

EXECUTIVE ASSISTANT Ron E Gant

STAFF ATTORNEY
Jack Fosbinder

The Jaurnal of the Tennessee Medical Association ISSN 0040-3318

Published monthly under the direction of the Board of Trustees for and by members of the Tennessee Medical Association, a nonprofit organization with a definite membership for scientific and educational purposes.

Devoted to the interests of the medical profession of Tennessee. This Association does not officially endorse opinions presented in different papers published herein. Advertisers must conform to policies and regulations established by the Board of Trustees of the Tennessee Medical Association. Subscriptions (nonmembers) \$16 per year for US, \$22 for Canada and foreign. Single copy \$2. Poyment of Tennessee Medical Association membership dues includes the subscription price of this Journal.

Copyright 1985, Tennessee Medical Association. All material subject to this copyright oppearing in the Journal may be photocopied for non-commercial scientific or educational use only. Second Closs postage paid at Nashville, TN. POSTMASTER: Send address changes to Journal of the Tennessee Medical Association, 112 Louise Ave., Nashville, TN 37203.

content

Original Contributions

- 553 Current Management of Renal Calculi—Aubra D. Branson, M.D.; Steven A. Morris, M.D.
- **Evolution of Toe-to-Hand Transfer**—Connie Hiers, M.D.; Scott W. Vann, M.D.; Cauley W. Hayes, M.D.; John D. Franklin, M.D.
- 559 Specialized Management of the Alzheimer's Disease Patient: Does It Make a Difference? A Preliminary Progress Report—James A. Greene, M.D.; Jan Asp, R.N.C.; Nancy Crane, R.N.

Special Features

566 Special Item—Weathering the Storm—Address of the AMA President—*Harrison L. Rogers, Jr., M.D.*

Regular Features

- 573 Trauma Rounds—Splenic Salvage
- 575 Loss Prevention Case of the Month—Warning Signs Unheeded
- 576 Health and Environment Report—Indoor Air Pollution Health Problems

TMA Organizational

592 Highlights of the TMA Board of Trustees Meeting-July 14, 1985

President's Page

585 Child Abuse

Editorials

586 And Into the Twenty-First587 On Promising a Rose Garden

News

589 Announcements

595 Continuing Medical Education Opportunities

Departments

588 In Memoriam

589 New Members

588 Personal News

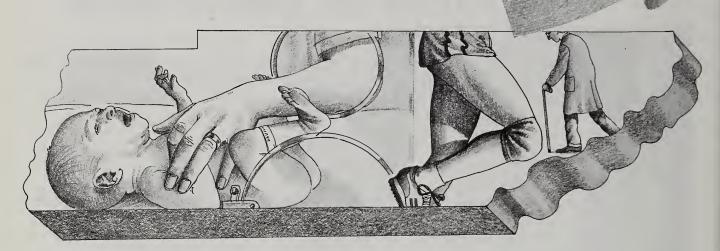
589 PRA Recipients 599 Placement Service

600 Information for Authors

600 Advertisers in this Issue

Roche salutes

TENNESSEE MEDICINE TODAY



Teens not immune to running injuries

Middle-aged runners are not the only ones who have to be careful to avoid injuries. A review of the records of a physician associated with the University of Tennessee College of Medicine in Chattanooga clearly indicates that adolescents are also subject to serious musculoskeletal injuries when

they run long distances.

Over a four-year period, Dr. John Paty treated 170 patients, including 19 teenagers, for problems associated with running. The 11 boys and eight girls he saw (mean age: 15.6 years) all took part in track or cross-country at their schools. The boys averaged 32 miles of training per week, while the girls averaged 12 miles, with the duration of running ranging from two weeks to two years. Over 70% of the injuries involved the knee or leg. Knee injuries were more common in boys. Despite their running longer distances, the boys had no stress fractures, but four of the girls did have this injury-three fractures of the tibia and one of the fibula. Generally, the diagnoses in the young runners were similar to those found in adults. More than two-thirds of the injuries were related to training errors: these teenagers ran too far, too fast, too soon after the start of their competitive season. Dr. Paty recommends more strengthening and stretching exercises, replacement of worn-out running shoes and a year-round graduated mileage program to prevent these kinds of injuries.1

Routine cesarean unnecessary for small "preemies"

Some obstetricians have recommended routine cesarean

section for delivery of the very small newborn. But a study of 109 singleton births at Vanderbilt University Hospital with birth weights from 500 to 1000 Gm suggests that cesarean section offers no advantage. In terms of neonatal morbidity and mortality, there was no difference between cesarean section and vaginal delivery, when labor was present and the fetus had a cephalic presentation. Unless there are maternal or fetal indications for cesarean section, vaginal delivery would seem to be a safe and appropriate procedure.²

Young women's disease in old men

Systemic lupus erythematosus (SLE) is predominantly a disease of young females. A report by Nashville rheumatologists Alan N. Baer and Theodore Pincus, however, points out that it should be considered in the elderly male with a debilitating illness. Within a 14-month period, Drs. Baer and Pincus observed five elderly men with life-threatening symptoms, including fever and weight loss, often associated with polyarthritis. The diagnosis of SLE was established only after considerable delay and extensive, costly evaluations. In four cases it was confirmed by the presence of DNA antibodies, and corticosteroid therapy was effective in three.

It was suggested that SLE should be a prominent diag-

It was suggested that SLE should be a prominent diagnostic consideration in elderly male patients with fever and weight loss for which there is no obvious explanation.³

References: 1. Paty JG Jr, Swafford D: *J Adolesc Health Care 5*:87-90, Apr 1984: 2. Barrett JM, Boehm FH, Vaughn WK: *JAMA 250*:625-629, Aug 5, 1983. 3. Baer AN, Pincus T: *JAMA 249*:3350-3352, Jun 24, 1983.

journal of the tennesses medical association

Vol. 78, No. 10 October, 1985

Office of Publication

112 Lauise Ave., Nashville, 37203 (615) 327-1451

EDITOR

Jahn B. Thomisan, M.D. P.O. Bax 70 Nashville, 37202

BUSINESS MANAGER

L. Hadley Williams

MANAGING EDITOR

Jean Wishnick

TMA OFFICERS

PRESIDENT Clarence R. Sanders, M.D. 575 E. Bledsae Gallatin, 37066

> PRESIDENT-ELECT James R. Rayal, M.D. 5502 Brainerd Raad Chattanaoga, 37411

CHAIRMAN, BOARD OF TRUSTEES Jahn R. Nelsan, Jr., M.D. 939 Emerald Ave. Knaxville, 37917

TMA EXECUTIVE STAFF

EXECUTIVE DIRECTOR
L. Hadley Williams

ASSISTANT EXECUTIVE DIRECTOR

Danald H. Alexander

DIRECTOR OF CONTINUING MEDICAL EDUCATION James D. Ingram

EXECUTIVE ASSISTANT William V. Wallace

EXECUTIVE ASSISTANT Thamas Wilkersan

EXECUTIVE ASSISTANT Ran E. Gant

> STAFF ATTORNEY Jack Fasbinder

Journal of the Tennessee Medical Association ISSN 0040-3318

Published monthly under the direction of the Board of Trustees for and by members of the Tennessee Medical Association, a nonprofit organization with a definite membership for scientific and educational

Devoted to the interests of the medical profession of Tennessee. This Association does not officially endorse opinions presented in various popers published herein. Advertisers must conform to policies and regulations established by the Board of Trustees of the Tennessee Medical Association. Subscriptions (nonmembers) \$16 per year for US, \$22 for Canada and foreign. Single copy \$2. Payment of Tennessee Medical Association membership dues includes the subscription price of this Journal. Copyright 1985, Tennessee Medical Association.

Copyright 1985, Tennessee Medical Association.
All material subject to this copyright appearing in
the Journal may be photocopied for noncommercial scientific or educational use only.
Second Class postage poid at Nashville, TN.
POSTMASTER: Send address changes to
Journal of the Tennessee Medical
Association, 112 Louise Ave.,
Nashville, TN 37203.

contents

Original Contributions

- 615 Henoch-Schonlein Purpura—A Review—Brad E. Blankenship
- 619 Subconjunctival Hemorrhage, Periorbital Ecchymoses and Facial Petechiae Following Cardioversion—Phillip Ashley Wackym, M.D.; J. Michael Ware, M.D.; George F. Gray, Jr., M.D.
- 622 Louis Pasteur Commemorated on French Five Franc Note—Thomas Fite Paine, Jr., M.D.
- 625 A Centennial Celebration: Pasteur and the Modern Era of Immunization

AMA Annual Meeting Report

628 Satellite and Commercial Medical Clinics—An Update

Regular Features

- 639 Trauma Rounds—Posttraumatic Acalculous Cholecystitis
- 641 CT Scan of the Month
- **643** From the TMA Impaired Physician Committee—Chemical Dependency: A Concept of a Primary Disease With a Singular Natural History
- 645 Loss Prevention Case of the Month—Tighten Up Your Office Protocol
- 646 EKG of the Month
- 648 Health and Environment Report—Chlamydia in Tennessee Health Department Clinics—A Preliminary Report

TMA Organizational

663 Membership Information and Statistics—October 1985

President's Page

657 A Salute to Our Spouses

Editorials

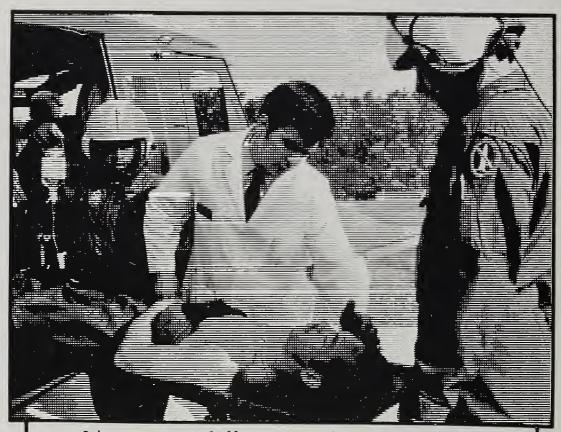
- 658 Chemical Dependency and the Impaired Physician
- 659 To a Flying Fortress

News

- 661 Announcements
- 667 Continuing Medical Education Opportunities

- 660 Our Mail Box
- 661 In Memoriam
- 661 New Members
- 661 PRA Recipients
- 671 Placement Service
- 672 Information for Authors
- 672 Advertisers in this Issue

PHYSICIANS, A WEEKEND WITH THE RESERVE ISN'T JUST ANOTHER DAY AT THE OFFICE.



It's not just different in the Army Reserve, there are opportunities to explore other phases of medicine, to add knowledge, and to develop important administrative skills. There are enough different needs to fill right in your local Army Reserve unit to make a weekend a month exciting and rewarding.

Explore the possibilities. Call our officer counselor:

USAR AMEDD Procurement 3606 Austin Peay, Suite 313 Memphis, TN 38128 (901) 521-2972/2973

ARMY RESERVE. BE ALLYOU CAN BE.

journal of the tennessee medical association

Vol. 78, No. 11 November, 1985

Office of Publication

112 Louise Ave., Nashville, 37203 (615) 327-1451

EDITOR

John B. Thomison, M.D. P.O. Box 70 Nashville, 37202

BUSINESS MANAGER

L. Hadley Williams

MANAGING EDITOR

Jean Wishnick

TMA OFFICERS

PRESIDENT

Clarence R. Sanders, M.D. 575 E. Bledsoe Gallatin, 37066

> PRESIDENT-ELECT James R. Royal, M.D. 5502 Brainerd Road Chattanooga, 37411

CHAIRMAN, BOARD OF TRUSTEES John R. Nelson, Jr., M.D. 939 Emerald Ave. Knoxville, 37917

TMA EXECUTIVE STAFF

EXECUTIVE DIRECTOR

L. Hadley Williams

ASSISTANT EXECUTIVE DIRECTOR

Donald H. Alexander

DIRECTOR OF CONTINUING MEDICAL EDUCATION

James D. Ingram

EXECUTIVE ASSISTANT William V. Wallace

EXECUTIVE ASSISTANT Thomas Wilkerson

EXECUTIVE ASSISTANT Ron E. Gant

> STAFF ATTORNEY Jack Fosbinder

Journal of the Tennessee Medical Association ISSN 0040-3318

Published monthly under the direction of the Boord of Trustees for ond by members of the Tennessee Medicol Associotion, a nonprofit organization with a definite membership for scientific and educational

Devoted to the interests of the medical profession of Tennessee. This Association does not officially endorse opinions presented in various papers published herein. Advertisers must conform to policies and regulations established by the Board of Trustees of the Tennessee Medical Association. Subscriptions (nonmembers) \$16 per year for US, \$22 for Conado and foreign. Single copy \$2. Payment of Tennessee Medical Association membership dues includes the subscription price of this Journal.

price of this Journol.

Copyright 1985, Tennessee Medicol Associotion.

All moterial subject to this copyright oppearing in
the Journal may be photocopied for noncommercial scientific or educational use only.

Second Class postage poid at Noshville, TN.
POSTMASTER: Send address changes to
Journal of the Tennessee Medical
Association, 112 Louise Ave.,
Noshville, TN 37203.

contents

Original Contributions

- 689 Outpatient Digital Arteriography in a General Community Hospital—Robert S. Francis, Jr., M.D.
- 691 Deterrents to Early Prenatal Care: A Comparison of Women Who Initiated Prenatal Care During the First and Third Trimesters of Pregnancy—Linda Oxford, ACSW; Sandy G. Schinfeld, MPH; Thomas E. Elkins, M.D.; George M. Ryan, M.D., MPH
- 696 The Answer: Patient Care—Thomas G. Peters, M.D.

Regular Features

- 703 Medical Grand Rounds—Update on Peptic Ulcer Disease
- 709 X-ray of the Month—Filling Defects in the Common Bile Duct
- 711 Loss Prevention Case of the Month—Legal Suicide. Weapon: The Medical Record
- 712 Health and Environment Report—Tennessee Statewide Prenatal Program Serving Low-Income Pregnant Women

President's Page

721 We Can Maintain Control of Our Destiny

Editorials

- 722 Chicago 1985: A Report from the AMA House of Delegates
- 723 From High Times to Low: A View From the Toboggan
- 725 Rediscovering Lost Loves

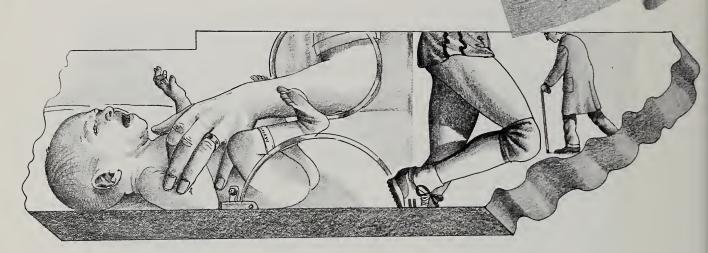
News

- 728 Announcements
- 730 Continuing Medical Education Opportunities

- 726 Our Mail Box
- 727 In Memoriam
- 727 New Members
- 727 Personal News
- 728 PRA Recipients
- 735 Placement Service
- 736 Information for Authors
- 736 Advertisers in this Issue

Roche salutes

TENNESSEE MEDICINE TODAY



Teens not immune to running injuries

Middle-aged runners are not the only ones who have to be careful to avoid injuries. A review of the records of a physician associated with the University of Tennessee College of Medicine in Chattanooga clearly indicates that adolescents are also subject to serious musculoskeletal injuries when they run long distances.

Over a four-year period, Dr. John Paty treated 170 patients, including 19 teenagers, for problems associated with running. The 11 boys and eight girls he saw (mean age: 15.6 years) all took part in track or cross-country at their schools. The boys averaged 32 miles of training per week, while the girls averaged 12 miles, with the duration of running ranging from two weeks to two years. Over 70% of the injuries involved the knee or leg. Knee injuries were more common in boys. Despite their running longer distances, the boys had no stress fractures, but four of the girls did have this injury—three fractures of the tibia and one of the fibula. Generally, the diagnoses in the young runners were similar to those found in adults. More than two-thirds of the injuries were related to training errors: these teenagers ran too far, too fast, too soon after the start of their competitive season. Dr. Paty recommends more strengthening and stretching exercises, replacement of worn-out running shoes and a year-round graduated mileage program to prevent these kinds of injuries.

Routine cesarean unnecessary for small "preemies"

Some obstetricians have recommended routine cesarean

section for delivery of the very small newborn. But a study of 109 singleton births at Vanderbilt University Hospital with birth weights from 500 to 1000 Gm suggests that cesarean section offers no advantage. In terms of neonatal morbidity and mortality, there was no difference between cesarean section and vaginal delivery, when labor was present and the fetus had a cephalic presentation. Unless there are maternal or fetal indications for cesarean section, vaginal delivery would seem to be a safe and appropriate procedure.²

Young women's disease in old men

Systemic lupus erythematosus (SLE) is predominantly a disease of young females. A report by Nashville rheumatologists Alan N. Baer and Theodore Pincus, however, points out that it should be considered in the elderly male with a debilitating illness. Within a 14-month period, Drs. Baer and Pincus observed five elderly men with life-threatening symptoms, including fever and weight loss, often associated with polyarthritis. The diagnosis of SLE was established only after considerable delay and extensive, costly evaluations. In four cases it was confirmed by the presence of DNA antibodies, and corticosteroid therapy was effective in three.

It was suggested that SLE should be a prominent diag-

It was suggested that SLE should be a prominent diagnostic consideration in elderly male patients with fever and weight loss for which there is no obvious explanation.³

References: 1. Pary JG Jr, Swafford D: *J Adolesc Health Care 5*:87-90, Apr 1984. **2.** Barrett JM, Boehm FH, Vaughn WK: *JAMA 250*:625-629, Aug 5, 1983. **3.** Baer AN, Pincus T: *JAMA 249*:3350-3352, Jun 24, 1983.

journal of the tennessee medical association

Vol. 78, No. 12 December, 1985

Office of Publication

112 Lauise Ave., Nashville, 37203 (615) 327-1451

EDITOR

Jahn B. Thamisan, M.D. P.O. Box 70 Nashville, 37202

BUSINESS MANAGER

L. Hadley Williams

MANAGING EDITOR

Jean Wishnick

TMA OFFICERS
PRESIDENT

Clarence R. Sanders, M.D. 575 E. Bledsae Gallatin, 37066

> PRESIDENT-ELECT James R. Rayal, M.D. 5502 Brainerd Raad Chattanaaga, 37411

CHAIRMAN, BOARD OF TRUSTEES

Jahn R. Nelson, Jr., M.D.

939 Emerald Ave.

Knaxville, 37917

TMA EXECUTIVE STAFF

EXECUTIVE DIRECTOR
L. Hadley Williams

ASSISTANT EXECUTIVE DIRECTOR
Donald H. Alexander

DIRECTOR OF CONTINUING MEDICAL EDUCATION James D. Ingram

> EXECUTIVE ASSISTANT William V. Wallace

> EXECUTIVE ASSISTANT Thamas Wilkersan

> EXECUTIVE ASSISTANT Ran E. Gant

STAFF ATTORNEY

Jack Fasbinder Journal of the Tennessee

Medical Association ISSN 0040-3318
Published monthly under the direction of the Board

Published monthly under the direction of the Board of Trustees for and by members of the Tennessee Medicol Association, a nonprofit organization with a definite membership for scientific and educational numbers.

Devoted to the interests of the medical profession of Tennessee. This Association does not officially endorse opinions presented in various papers published herein. Advertisers must conform to palicies and regulations established by the Board of Trustees of the Tennessee Medical Association. Subscriptions (nonmembers) \$16 per year for US, \$22 for Canada and foreign. Single copy \$2. Payment of Tennessee Medical Association membership dues includes the subscription grize of this laurnal.

price of this Journal.
Copyright 1985, Tennessee Medical Association.
All material subject to this copyright appearing in
the Journal may be photocopied for noncommercial scientific or educational use only.
Second Class pastage paid at Nashville, TN.
POSTMASTER: Send address changes to
Journal of the Tennessee Medical
Association, 112 Louise Ave.,
Nashville, TN 37203.

contents

Original Contributions

751 The Surgery of Epilepsy—Allen R. Wyler, M.D.

Special Features

754 Special Item—Heavy Metal: A New Religion—Paul King, M.D.

756 Special Item—Building Networks: What Business Are You Really In?— James A. Greene, M.D.

Regular Features

761 Trauma Rounds—Pelvic Fractures

764 Loss Prevention Case of the Month—Without a Quarterback—You Lose!

765 Health and Environment Report—Tuberculosis in Nursing Homes

TMA Organizational

778 Highlights of the TMA Board of Trustees Meeting—October 13, 1985

784 1985 Membership Roster

802 Index to Volume 78

President's Page

771 'Tis the Season . . .

Editorials

772 Giving, Getting, and Forgetting

773 An Ounce of Prevention

News

775 Announcements

776 Continuing Medical Education Opportunities

Departments

774 Our Mail Box

774 In Memoriam

774 New Members

775 Personal News

775 PRA Recipients

809 Placement Service

810 Information for Authors810 Advertisers in this Issue

This Group Insurance Plan is Designed Specifically for the Needs of Physicians and Their Employees at Better than Competitive Rates.

as a said a la faire a constitut de la faire de la

IT PAYS TO BELONG

How it Works The Benefit

DEDUCTIBLE

- 4 Deductible Options:
- •\$500.00 •\$100.00
- \$250.00 •\$1,000.00

PLAN PAYS 80%

of the first \$5,000 of Eligible Expenses in a Calendar Year

MEMBER PAYS 20%

PLAN THEN PAYS 100%

of Eligible Expenses for the remainder of the Calendar Year up to a maximum of

\$1,000,000

- Special Out-Patier Surgical Benefit:
- Special Out-Patier Accidental Injury Benefit:
- Special Out-Patier **Pre-Admission Test** Benefit:
- Special Maternity Benefit:
- Special Mental at Nervous/Alcohol (Drug Abuse Bene

ADMINISTERED BY:



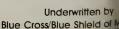
Insurance Planning and Service Co 822 McCallie Avenue P.O. Box 1109 Chattanooga, TN 37401

Call Toll-Free (TN Residents 1-800-572-7389

Non-Tennessee residents 0-615-756-2850 (Call Collect)

The Official TMA \$1,000,000 Medical Insurance Plan.









OWNED AND PUBLISHED BY THE ASSOCIATION

JANUARY, 1985 VOL. 78, NO. 1

Symposium on Alzheimer's Disease

Alzheimer's Disease— A Major Health Problem

JOSEPH C. PARKER, JR., M.D.

Alzheimer's disease, which has been called the disease of the century, is named after Alois Alzheimer.1 This idiopathic dementing disorder was originally described in individuals under 65 years of age, but since senile dementia is similar to presenile dementia or "classic" Alzheimer's disease, both are considered now as a single process, known as Alzheimer's disease.2-6 It is the most common form of dementia, with 5% of persons 65 years of age and older having severe dementia and 10% having mild to moderate dementia.2-4 An astounding 4 million people in the United States have dementia due to Alzheimer's disease, and it is the fourth or fifth leading cause of death in the United States, precipitating an aspiration-type bronchopneumonia.3-5,7 Over 50% of all demented patients have Alzheimer's disease.3-5

The clinical features of Alzheimer's disease may be difficult to separate from other potentially treatable disorders.3-5,8 It is a progressive dementing disorder associated with loss of memory (particularly recent memory), altered intellectual functions, and disturbed, slowed thought processes. Altered speech and other focal neurologic deficits, including apraxia and agnosia, may occur.3-5 The disease lasts anywhere from two to ten years, with an average duration of seven years.3-5 Some victims have a rapid course, with death within 12 months, whereas others may last for over 20 years. Twenty-five percent of depressed, elderly individuals have Alzheimer's disease.3-8 Other neurologic deficits include myoclonus, seizures, and later a vegetative state with total unresponsiveness. The diagnosis is one of exclusion, confirmed by postmortem examination. Progressive dementia in an individual without motor findings should be considered Alzheimer's disease.

Characteristic autopsy features include many (over 5 per $100 \times \text{field}$) neuritic plaques and neurofibrillary tangles throughout the cerebral cortex.^{3-7,9,10} Grossly, the central nervous system

JANUARY, 1985

From the Department of Pathology, University of Tennessee Memorial Research Center and Hospital, Knoxville.

Presented at the First Annual Alzheimer's Disease Symposium, sponsored by the Alzheimer's Disease and Related Disorders Association, Knoxville Area Chapter, Inc., Knoxville, Nov. 13-14, 1984.

Reprint requests to Dept. of Pathology, UT Memorial Research Center and Hospital, 1924 Alcoa Hwy., Knoxville, TN 37920 (Dr. Parker).

ALZHEIMER'S DISEASE/Powers

may appear normal. In some victims, widespread cerebral atrophy, which is variable, may be associated with nonobstructed dilated lateral and third ventricles (Fig. 1). Brains usually weigh less than 1,250 gm.^{3,4,7,10} Unfortunately, there is no constant or reliable gross abnormality. Cerebral arteriosclerosis is usually mild or absent. Microscopic evaluation of the Alzheimer's disease brain reveals reduced cortical neurons, particularly large neurons over 90 cuµ.^{4,11} Secondary demyelination may occur. Neuronal loss can be seen in

the third and fifth cerebral cortical layers. Increased neuritic plaques and neurofibrillary tangles have been correlated with intellectual deficits (Figs. 2 and 3). Neuritic plaques are associated with degenerated neurites around an extracellular amyloid core. Neurofibrillary tangles are intracytoplasmic, paired, helical, 20-nm wide filaments with twists every 80 nm. 4-6.10.11 Other microscopic findings in Alzheimer's disease brains include granulovacuolar degeneration in pyramidal neurons in the hippocampus, cerebral amyloid angiopathy, and Hirano bodies, which are eosinophilic rod-like intracytoplasmic





Figure 1. (A) The gross appearance of the brain is not diagnostic for Alzheimer's disease but may show widened sulci and narrowed gyri. (B) Characteristically, dilated non-obstructed lateral ventricles are noted.

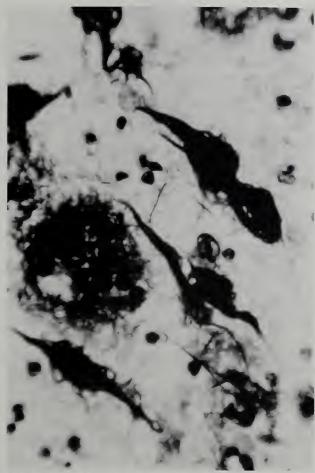


Figure 2. Silver stains demonstrate neuritic plaques and neurofibrillary tangles in the cerebral cortex of Alzheimer patients (Lester King stain. × 250).



Figure 3. The neuritic (senile) plaque scattered throughout the cerebral cortex of patients with Alzheimer's disease represents damaged synapses (PAS, ×250).

structures in hippocampal neurons.^{3-7,9,10} The Golgi stains have demonstrated reduced dendrites and dendritic spines on cortical neurons.3 This finding, like the increased neuritic plaques, correlates with reduced intellectual capacity. Postmortem confirmation of Alzheimer's disease requires increased cortical neuritic plaques, which can occur in small numbers in apparently intact older adults.3-5,7 Cerebral atrophy, ventricular dilatation, and few neuritic plaques and neurofibrillary tangles are seen at autopsy in 30% or more of individuals over 65 years of age.5,7 These people with so-called Alzheimer's senile change (not Alzheimer's disease) are susceptible to physical and emotional alterations, which can be handled adequately by older persons without these morphologic changes.7 This subtle cerebral degeneration predisposes individuals to aspiration and subsequent bronchopneumonia—the old age syndrome.7

Why does the brain degenerate with age? The

answer remains an enigma, but is associated with a genetic predisposition, possible environmental toxic factors, viral infections, and autoimmunity. First degree relatives of individuals with Alzheimer's disease have five times the frequency of developing the disorder, which is inherited as an autosomal dominant trait.2-4,12 Nevertheless, most cases of Alzheimer's disease are sporadic. Fewer than 60% of identical twins develop Alzheimer's disease, yet patients with the Down syndrome over 30 years of age have postmortem morphologic findings of Alzheimer's disease.²⁻⁴ Exposure to aluminum, iron, silicon and other elements may predispose to Alzheimer's disease,3.4 but this remains to be proven. Over 50% of the choline acetyl transferase (CAT) is reduced in the cerebral cortex and hippocampus of patients with Alzheimer's disease. 4,13 The disorder is associated with selective loss of cholinergic neurons in deep forebrain nuclei that project to all areas of the cerebral cortex. 4,13 Neurofibrillary tangles and

ALZHEIMER'S DISEASE/Parker

neuritic plaques have been produced in non-human animals with aluminum salts and the scrapie agent.4 Alzheimer's disease seems to be a multifactorial disorder associated with alterations in the cholinergic neuronal system due to toxic, metabolic, infectious, traumatic or some combination of these factors. Inciting agents may lead to an autoimmune process against neurotransmitters and other neuritic proteins, thereby producing the histologic hallmarks of Alzheimer's disease, neuritic plaques and neurofibrillary tangles. In summary, Alzheimer's disease is the most common neurodegenerative disorder in man and can be separated from other dementing diseases by history and physical and laboratory examinations. It remains a diagnosis of exclusion, requiring confirmation by postmortem examination.

REFERENCES

1. Alzheimer A: Über eine eigenartige Erkrankung der Hirnrinde. Allg Z Psychiatr 64:146-148, 1907.

2. Heston LL: Alzheimer's disease and senile dementia: Genetic relationships to Down's syndrome and hematologic cancer, in Katzman R (ed): Congenital and Acquired Cognitive Disorders. New York, Raven Press, 1979, pp 167-176.

3. Hirano A, Llena JF: Degenerative diseases of the central nervous system, in Rosenberg RN (ed): The Clinical Neurosciences, vol 3. New York, Churchill Livingstone, 1983, pp 285-324.4. Terry RD, Katzman R: Senile dementia of the Alzheimer type. Ann Neu-

rol 14:497-506, 1983.

5. Tomlinson BE: The pathology of dementia, in Wells CE (ed): Dementia, ed 2. Contemporary Neurology Series, vol 15, Philadelphia, F.A. Davis, 1977, pp 113-153.

6. Tomlinson BE, Blessed G, Roth M: Observations on the brains of de-

mented old people. J Neurol Sci 11:205-242, 1970.
7. Parker JC Jr: The old age syndrome—Subtle cerebral degeneration and bronchopneumonia. Geriatrics 27:94-98, 1972.

8. Kiloh LG: Pseudo-dementia. Acta Psychiatr Scand 37:336, 1961.

9. Blessed G, Tomlinson BE, Roth M: The association between quantitative measurements of dementia and of senile change in the cerebral gray matter of elderly subjects. Br J Psychiatry 114:797-818, 1968.

10. Terry RD: Structural changes in senile dementia of the Alzheimer type, in Amaducci L, Davison AN, Antuono P (eds): Aging, vol 13. Aging of the Brain

and Dementia. New York, Raven Press, 1980, pp 23-32.

11. Terry RD, Peck A, DeTeresa R, et al: Some morphometric aspects of the brain in senile dementia of the Alzheimer type. Ann Neurol 10:184-192, 1981.

12. Feldman RG, Chandler KA, Levy LL, et al: Familial Alzheimer disease. Neurol 13:811-824, 1963.

13. Whitehouse PJ, Price DL, Struble RG, et al: Alzheimer's disease and senile dementia: Loss of neurons in the basal forebrain. Science 215:1237-1238,

APRIL 1985						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	1	2	3	4	5	6
7	8	9	10 TM/ Hyat	11 A 150TH AN It Regency I	12 12 INUAL MEE Hotel — Mer	13 TING nphis
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	NOTES			

Dementia of the Alzheimer's Type: Clinical Overview

LAURA B. POWERS, M.D. and JOHN H. DOUGHERTY, JR., M.D.

Introduction

Dementia in general, and dementia of the Alzheimer's type (DAT) in particular, is becoming an increasingly well-recognized and important clinical entity. Many believe we face a true "epidemic" of dementia, first, because the number of elderly persons in our society is increasing rapidly and second, because dementia is primarily a disorder of old age. The elderly population in the United States is increasing rapidly, both in percentage of the total population and in absolute numbers. In 1950, only 8% of our population was over 65 years of age, accounting for about 12.3 million persons. By 2030, it is estimated that those over 65 will make up 17% to 20% of the population, or about 51 million persons, and almost half of all the elderly will be over 75.1 In addition, there has been a significant drop in mortality for persons 85 years and older. We are currently experiencing, therefore, not only a growth in the elderly population per se, but a growth that is especially marked in the older segment of that population. Furthermore, several studies suggest that the prevalence of dementia increases with each decade of life.

In 1982, \$10 billion of the \$20 billion spent on nursing care was spent on patients with the diagnosis of dementia.² It is estimated that 4% to 5% of the people over 65 years of age are severely demented and 11% to 12% are moderately demented.³ This translates to 3 million people with mild to moderate dementia and 1 million people with severe dementia in the United States. Approximately 50% to 60% of these 3 to 4 million people will have DAT.

From the Department of Neurology, University of Tennessee Center for the Health Sciences, Knoxville.

Reprint requests to 930 Emerald Ave., Suite 815, Knoxville, TN 37917 (Dr. Dougherty).

Definition

Dementia may be defined as a multifaceted deterioration of intellect, personality, and behavior, resulting from definable disease of the brain.⁴ It is important to note that dementia is chronic and progressive; that is to say, it is not an acute change in mental status, as would be associated with the acute toxic delirium in the context of delirium tremens. In addition, it is progressive and not static; for example, it does not resemble a static motor encephalopathy or cerebral palsy syndrome.

In the past it was common to divide dementias into the presenile and senile groups. This, in part, was the consequence of a view that it was "normal" for elderly patients to develop deficits of recent memory. We now recognize that DAT is seen on a continuum similar to that of many other chronic diseases, e.g., coronary artery disease. In the "young" population, i.e., less than 65, it is quite uncommon and becomes progressively more frequent in the older age groups. It is estimated that perhaps as many as 30% of individuals over 75 have at least a mild DAT.⁵

Pathology

DAT was first described by Alois Alzheimer in 1907. The then-classical features of neurofibrillary tangles, senile plaques, and granulovacuolar degeneration have continued to be the prominent pathologic features of this disease.

Neurofibrillary tangles are made up of coarse masses of fibers extending from the cell bodies of neurons into the dendrites. With electron microscopy, the fibrillar structure is seen as paired helices. They are not exclusively seen in Alzheimer's disease, occurring in some other degenerative diseases of the nervous system. The senile plaque is composed of an amyloid core of light-chain immunoglobulins, surrounded by degenerated axons and dendrites. Granulovacuolar

Presented at the First Annual Alzheimer's Disease Symposium, sponsored by the Alzheimer's Disease and Related Disorders Association, Knoxville Area Chapter, Inc., Knoxville, Nov. 13-14, 1984.

ALZHEIMER'S DISEASE/Powers

degeneration, inclusions found at somatodendrite junctions, are clear vacuoles containing an argyrophilic granule which occur for the most part in the hippocampus.

These changes are most prominent in the neocortical areas, although a great deal of recent attention has focused on the severe and early changes found in the nucleus basalis of Meynart.

Biochemistry

In recent years, important new biochemical findings have greatly enhanced the understanding of DAT. A deficiency choline acetyltransferase, an enzyme that converts choline to acetylcholine, has been identified. The basal nucleus of Meynart appears to be the origin of neurons of cholinergic activity projecting to the cortex.^{6, 7} In addition, it seems that the senile plaques are rich in acetylcholinesterase, suggesting that senile plaques are made up of axon terminals of cholinergic cells, which may represent projections from the nucleus basalis of Meynart.

There are changes in other neurotransmitters and neuropeptides as well, but the biochemical significance of these changes is presently unknown. It appears, then, that Alzheimer's disease is a disease of the "cholinergic system," much as Parkinson's disease is a disease of the "dopaminergic system." Many new rational therapeutic approaches to the treatment of DAT have, therefore, attempted to increase central acetylcholine.^{8,9}

Etiology

The specific cause of the pathologic and biochemical changes found in DAT is not known, but there are several interesting epidemiologic findings in DAT. In a very few families, Alzheimer's disease is inherited as an autosomal dominant pattern. The same pathologic changes are found in the Down syndrome, which suggests the possibility of some chromosomal dysfunction in DAT.

The light chains found in senile plaques raise the possibility of an autoimmune disorder. The only other supportive evidence is the epidemiologic increase in families with thyroid disease. ¹⁰ Presently, however, it seems that disordered autoimmunity is an unlikely cause of DAT.

In the recent past, abnormalities of aluminum storage within the brain appeared to be an attractive hypothesis to explain DAT. Recent evidence, however, has demonstrated that the neurofibrillary tangles resulting from aluminum toxicity (as seen in dialysis dementia), are different in terms of the structure of the microtubules, which are without the typical paired helical structure of those found in DAT. It is more likely then, that an increase in aluminum content in the brains of persons with Alzheimer's disease is the result, rather than the cause, of the pathology found in DAT.

DAT has never been transmitted to experimental animals, and transmission from one human being to another has never been proven. Furthermore, epidemiologic data about the disease do not suggest an infectious disease pattern.¹¹

Clinical Presentation

Much work is currently in progress to establish specific clinical criteria for DAT.12 The classical clinical picture of DAT is that of a previously normally functioning person in his late 50s with the insidious onset of memory loss. The memory loss is often not recognized by the patient or the family until more significant cognitive impairment is present. The patient often becomes despondent and irritable in the early stages and an associated depression may be the presenting clinical complaint. Frank denial or failure to recognize a significant deficit of recent memory is typical in the early stages of Alzheimer's disease. When a patient presents specifically "complaining" of memory loss, without other evidence of cognitive impairment, the diagnosis is frequently pseudodementia (depression). In the early stages of DAT, motor signs are usually not present.13 If motor signs accompany an early dementia, one must consider multi-infarct dementia or normal pressure hydrocephalus. Progressively, the patient with DAT becomes more dependent on other family members, a change frequently devastating to the family constellation. In the later stages, as the cognitive function deteriorates, neurologic deficits such as mild gait disturbance, rigidity, incontinence, and occasional anomic dysphasia may appear. Patients with DAT frequently die of a urinary or respiratory infection.

The life expectancy is reduced significantly with DAT. Most studies estimate between 2.6 to 5.1 years until death, as compared to normals of 8.7 to 9.6 when the age of onset is in the mid-70s. When the age of onset is 60 or less, the life expectancy is about seven years, compared with a normal life expectancy of a little over 23 years.³

Diagnosis

The most important initial task in evaluating a patient with possible DAT is to determine whether or not a true dementia is actually present. A number of neuropsychological tests are useful in the evaluation of early dementias. The aphasic inventories are the best predictors in DAT, but are relatively impractical in daily practice and require considerable training to administer. 14 A number of important compact cognitive screening examinations have been developed, which can be carried to the examining room or to the patient's bedside, and which provide rather good information in regards to the degree and level of cognitive impairment.¹⁵ Formal psychological testing is important in the younger or borderline patient, where pseudodementias may be present. It is impossible to overemphasize the importance of identifying pseudodementia (depression) in the early evaluation of patients with a possible cognitive impairment.¹⁶ Of course, pseudodementia is often readily treatable and the prognosis may be excellent.

The medical evaluation of DAT is designed to demonstrate those forms of dementia for which there is known treatment. 10 A list of potential treatable dementias are beyond the scope of this article, but they include important metabolic and nutritional defects, as well as such entities as normal pressure hydrocephalus and multi-infarct dementia. The history, physical examination and neurologic assessment are essential in evaluating a patient with a dementia. A comprehensive laboratory evaluation should include a complete blood cell count, sedimentation rate, chemistry profile, urinalysis, thyroid profile, B₁₂, folate, VDRL, chest x-ray and EKG. Twenty-four hour urines for heavy metals have a low but important yield in evaluating dementias as well. In addition, a CT scan is essential in the evaluation of a patient with dementia. Specifically, one is looking for possible intracranial tumors, as well as evidence of a lacunar infarction consistent with the diagnosis of multi-infarct dementia. In addition, one carefully evaluates the ventricular size for consideration of normal pressure hydrocephalus. An electroencephalogram can be very helpful in DAT. Although the EEG is frequently normal early in the disease, in moderate to severe DAT it often shows diffuse slowing without focal abnormalities. It may be that newer techniques such as frequency analysis of EEG by computer will be important in the early diagnosis

of DAT. Any periodic activity on the EEG should suggest the diagnosis of a spongiform encephalopathy or Jakob-Creutzfeldt Disease.

A lumbar puncture is considered necessary for the evaluation of DAT only when the clinical picture suggests a true possibility of infection. There have been rare cases of cryptococcal meningitis, however, manifested as a progressive dementia, which have gone years prior to actual occurrence of meningeal signs. A spinal tap should always be performed in the presence of a positive serum VDRL.

Nuclear magnetic imaging may be extremely helpful in the evaluation of the demented patient. Specifically, it is very helpful in considering normal pressure hydrocephalus and ischemic disease of the white matter (multiple lacunar infarcts with demyelination). Magnetic resonance imaging, in the future, may become the diagnostic screening procedure of choice in evaluating the patient with dementia.

In summary, much is now known about the pathology and biochemistry of DAT. We essentially stand where we stood with Parkinson's disease in the early 1960s. That is, we now know much about the specific neurotransmitter defect associated with DAT, and many studies are now in progress to develop strategies to correct this central deficit of acetylcholine.

REFERENCES

- Wells CE: A deluge of dementia. Psychosomatics 22:837-840, 1981.
 Terry RD, Katzman R: Senile dementia of the Alzheimer's type. Ann
- Neurol 29:447-470, 1983.

 3. Katzman R: The prevalence and malignancy of Alzheimer's disease. Arch Neurol 33:217-218, 1976.
 - 4. Wells CE: Dementia. Philadelphia, F.A. Davis, 1971
- 5. Task Force by the National Institute on Aging. Senility reconsidered: Treatment possibilities for mental impairment in the elderly. JAMA 244:259-263,
- 6. Coyle JT, Price DL, Delong MR: Alzheimer's disease: A disorder of cortical cholinergic innervation. Science 219:1184-1190, 1983.
- 7. McGeer PL, McGeer EG, Suzuki J, et al: Aging, Alzheimer's disease, and the cholinergic system of the basal forebrain. Neurology 34:741-745, 1984.
- 8. Brinkman SD, Pomara N, Goodnick PJ, et al: A dose ranging study of Lecithin in the treatment of primary degenerative dementia (Alzheimer's disease). *J Clin Psychopharmacol* 2:281-285, 1982.

 9. Davis KL, Mohs RC: Enhancement of memory process in Alzheimer's
- disease with multiple-dose intravenous physostigmine. Am J Psychiatry 139:1421-1424, 1982.
- 10. Heyman A, Wilkinson WE, Hurwitz BJ, et al: Alzheimer's disease: Ge-
- netic aspects and associated clinical disorders. Ann Neurol 14:507-515, 1983.

 11. Goudsmit J, Morrow CH, Asher DM, et al: Evidence for and against the transmissibility of Alzheimer's disease. Neurology (New York) 30:945-950, 1980.

 12. McKhann G, Drachman D, Folstein M, et al: Clinical diagnosis of Alzheimer's disease: Report of the NINCDS-ADRDA work group under the austral Experience Alzheimer's Disease. pices of the Health and Human Services Task Force on Alzheimer's Disease. Neurology 34:939-943, 1984.
- 13. Koller WC, Wilson RS, Glatt SL, et al: Motor signs are infrequent in dementia of the Alzheimer type. *Ann Neurol* 16:514-516, 1984.

 14. Berg L, Danziger WL, Storandt M, et al: Predictive features in mild senile dementia of the Alzheimer's type. *Neurology* (Cleveland) 34:563-569, 1984.

 15. Folstein MF, Folstein SE, McHugh PR: "Mini-mental state": a practical
- method for grading the cognitive state of patients for the clinician. J Psychiatr Res
- 12:189-198, 1975.

 16. Beck JC, Benson DF, Scheibel AB, et al: Dementia in the elderly: The silent epidemic. Ann Intern Med 97:232-241, 1982.

Management of Alzheimer's Disease

JAMES A. GREENE, M.D.; MARIANNE O'BRIEN, R.N.; WOODY JOHNSON, ACSW; and TERRY E. GOOD, MPH

Introduction

It would be a great pleasure to tell you that the management of Alzheimer's disease is an obsolete topic. Unfortunately, there exists no miracle drug or procedure that can cure or prevent Alzheimer's disease at this point. And I say "at this point" because I am hopeful that with all the research that is currently being done, there will soon be some answers. Certainly, with approximately 5% of the population over 65 years of age suffering from Alzheimer's disease we have a clear mandate to forge ahead with research to find those elusive answers.

At present, specific treatment for the disease is limited, but promising. Research in the area of biochemical abnormalities shows large cholinergic deficiencies in the brain tissue of affected patients. The use of physostigmine, an acetylcholine esterase inhibitor that prolongs and potentiates the action of acetylcholine, is still in the experimental stages. Since physostigmine is toxic at dosages only slightly higher than those that may enhance memory, its potential in treatment of Alzheimer's disease appears limited. What may be of more importance and is exciting in itself is the knowledge that the disease can be influenced neurochemically. It appears that a significant approach at this point may be to overcome the cholinergic deficit.

A preliminary report on intracranial cholinergic drug infusion is encouraging. This treatment uses bethanechol chloride (a choline-like compound), which is not degraded by the cholinesterases. It is infused via an implanted intracranial system, with reportedly encouraging results. Occasionally I read in the newspapers that a major breakthrough has occurred in the treatment of Alzheimer's disease. My policy whenever I read about a new breakthrough, is to call the researcher directly to hear firsthand about any successful new treatment. Inevitably, the answer I have gotten has been the same: "No, there is no great breakthrough, although our research is promising in some areas. The media overstated our findings."

This can be emotionally painful for families who are so desperately hoping for a cure. I often get calls from these people, wanting to know if I have heard any good news. It saddens me that there is no cure, but these reports of new research findings, and the knowledge that the research is continuing, gives me hope that one day there may well be a cure.

What can we offer now to the many people whose cognitive functioning is "wasting away?" What can we offer that will assist families and caregivers in their day-to-day struggles? What can we do to help the patient maintain a level of functioning that is comfortable to himself and to others for as long as possible? Pharmacologically speaking, at present the only FDA-approved drugs for treating dementia are the ergoloid mesylates. Of the egots, Hydergine has been evaluated most extensively. Studies have shown that the drug is more beneficial when given while the dementia is mild. The drug seems to act as a mild mood elevator and seems to slightly improve attentiveness and concentration.

There is no objective evidence that Hydergine significantly improves cognitive functioning. Even though its benefits may be questionable, the side effects are so minimal that prescribing the drug involves very little risk. It may be that in the early stages of Alzheimer's disease, when confustion is very mild, the drug may be of some psychological benefit. That is to say, if the patient is aware that something is being done, however minimal, that may decrease anxiety, which could, in turn,

From the Health and Creative Aging Clinic, Knoxville. Ms. O'Brien is now with East Tennessee Psychiatric Consultants, Knoxville.

Presented at the First Annual Alzheimer's Disease Symposium, sponsored by the Alzheimer's Disease and Related Disorders Association, Knoxville Area Chapter, Inc., Knoxville, Nov. 13-14, 1984.

Reprint requests to 310 Blount Professional Bldg., Knoxville, TN 37920 (Dr. Greene).

cause the memory to be a bit better.

When considering what drugs to use, it generally becomes a question of management of the behavioral manifestations of the disease. Cognitively, the patient may experience increasing confusion, and affectively be victim to depression, all of which may compound the underlying progressive deterioration.

Assessment of Dementia

It has been estimated that about one-fourth of the patients with Alzheimer's disease will develop depression, which itself can cause confusion, as can a variety of medical disorders. One of the first things that should be done is a thorough workup to rule out treatable causes for the dementia. Only after ruling out other possibilities should we assume that the patient probably does have Alzheimer's disease, and begin management with *that* diagnosis in mind.

A variety of tests can be done as part of a thorough workup, among them WBC count, RBC count, hemoglobin, hematocrit, serologic test for syphilis, SMA₁₂, SMAC, or other standard metabolic screening tests, thyroid function studies, serum B₁₂ and folate levels, computerized cranial tomography, urinalysis, and chest x-ray. In this assessment for dementia other medical problems may be discovered that may complicate the overall management of the patient. If the WBC count is elevated, for instance, the patient needs to be assessed more thoroughly for infectious processes, which could be causing or contributing to the dementia, since in the elderly, for example, the only symptom of pneumonia may be confusion. A chest x-ray can confirm this.

You can already see then an important component to effective management is a return to the *normal* patterns of behavior and the level at which the patient ordinarily functions. If we are in tune to what is normal for that individual, then when a change occurs, it is not as likely to go unnoticed, and consequently untreated.

As you know, the SMAC screens for metabolic abnormalities, and although this test screens for a number of problems, a common reason for certain abnormal values in the Alzheimer patient is poor nutrition; perhaps it is the patient's refusal to eat, or to eat properly, that results in a visit to the physician. Electrolyte imbalances can cause lethargy, confusion, coma, and eventually death, and nutritional problems can wreak even more havoc with the diabetic patient. When a patient's problems are nutritional, a multidisciplinary ap-

proach is helpful, and can go a long way in making patient management more successful and comfortable for all concerned.

Thyroid function studies can suggest treatable causes, or exacerbation, of an existing confusion or dementia. If the T_3 and T_4 are borderline normal, the physician can go a step further and obtain a TSH level, since it's not uncommon to discover a malfunctioning thyroid in this manner. B_{12} and folate levels may also pinpoint deficiencies that can be treated successfully.

A severe urinary tract infection may be present, and the patient may be unable to relate his pain or discomfort to anyone. If incontinence is present, it may be looked on as usually concomitant. It should be evaluated with a urinalysis before the assumption is made that the patient simply no longer has the cognitive ability or the social skills to go to the bathroom. I will mention at this point that whenever the patient's environment is changed, he is more likely to experience increasing confusion and also may become incontinent simply because he is unable to find the bathroom in strange surroundings. This is something we observe over and over in the hospital setting, but it also happens when a parent with Alzheimer's disease visits first one child, then another. Change does not come easy when new messages can't be processed correctly.

The CT head scan is helpful in diagnosing Alzheimer's disease because it allows us to rule out other disorders. Subdural hematomas, tumors, hydrocephalus, and dementia associated with vascular disease are all conditions that can be assessed by CT scanning and can at times be successfully treated. A diagnosis of Alzheimer's disease should not be made on the basis of a CT scan alone. Twenty percent or more of cases with clinical diagnosis of Alzheimer's disease are found at autopsy to have some other condition and not Alzheimer's disease.

If the workup is negative for any medical problems which could be causing symptoms or behaviors suggestive of Alzheimer's disease, a pseudodementia secondary to depression ought to be considered. Patients may be misdiagnosed as having Alzheimer's disease, when in fact an affective disorder (depression) is present. A careful look at the medical workup can be helpful in ruling out such other causes of dementia.

In distinguishing depression from dementia, including the family in the history-taking process will be very helpful, although the depression can be superimposed on the dementia, which can in-

JANUARY, 1985

ALZHEIMER'S DISEASE/Greene

crease the level of confusion. The physician and caregivers should be alert to signs of depression, which may be both psychological and physical. Some of the more common psychological symptoms are sadness, discouragement, pervasive pessimism about present, future, and past, pervasive loss of interest, indecisiveness, crying spells, despair, guilt, and suicidal impulses. It's not unusual for covert psychological symptoms to go unrecognized by family or caregivers, and oftentimes the depression is not treated until the patient shows more overt physical symptoms, such as fatigue, generalized weakness, loss of appetite, weight loss, sleep disturbances, constipation, and, more rarely, pain (headache or back pain).

Almost every affected patient will receive at least one medication to treat secondary behavioral problems. Since a cholinergic deficiency seems to be present in the affected patient, using medication with the least anticholinergic properties in order to avoid increasing the degree of confusion becomes a major concern. Successful management of a depressed patient frequently will require the use of antidepressant medications. With the Alzheimer patient, the caregiver's observations and feedback may be very helpful in establishing an effective medication regimen. This is especially helpful when the patient is at home, rather than in the hospital.

Prescribing for the Elderly

In prescribing medication, the best policy seems to be to start one drug at a time, start low and go slow, increase the dosage to an effective level, and then follow closely to assess effectiveness, side effects, and compliance. With the behavior being unpredictable and the cognitive impairment being such that the patient cannot communicate feelings, complaints or symptoms, it is important that the physician be able to assess the patient on a regular basis. This also gives the health care team the opportunity to spend time with the caregivers, since compliance may be, by necessity, their responsibility. I have found that taking the time to educate the caregivers and to answer their questions is helpful not only in providing them with the knowledge they need to be more observant of the things that help me to be more effective, but also to help them to achieve the skills that can make their situation more rewarding and less taxing for both themselves and the patient.

If an antidepressant is prescribed, I consider both the degree of anticholinergic effect and whether or not the drug has a high or low sedative effect. (Of course, in the presence of medical problems, there may be many other things to consider.)

Treatment of Depression

In prescribing tricyclic and tetracyclic antidepressants, low anticholinergic effects are important with the Alzheimer patient. This immediately limits the choice of drugs. In the absence of other medical problems, depending on whether or not nocturnal restlessness or sleeplessness is a problem, the choice can be made accordingly. When initiating antidepressant therapy, monitoring drug response becomes a delicate situation. The patient may not only be unable to give reliable subjective information as to drug effectiveness or side effects, but may also be elderly, which means even more care must be taken, since the elderly may not metabolize, absorb, or distribute the drugs as a younger person does.

Starting on a low dosage of antidepressant drugs and lithium and increasing gradually seems to ease the process of monitoring drug response. The dosage is lower for the elderly patient than for the younger patient, and the starting dosage for the Alzheimer patient may be lower yet, especially if he is unable to communicate subjective information about how he feels.

In addition to a psychopharmacologic approach, there are other kinds of therapy that can be effective in conjunction with it. In fact, with mild depression, the "people therapy" may be effective on its own. Certainly, though, treatment must be individualized and must be reassessed at times, since the patient's cognitive abilities will decline.

It seems that when hostility, paranoia, and agitation occur, the family feels the burden of care more than ever before. This is especially true if such behavior is accompanied by sleeplessness, so that not only does the *patient* not get any rest, which increases the level of agitation, but the *caregiver's* stress level increases in response to patient's behavior. Everyone becomes touchy and miserable.

If the behavioral manifestations are severe enough that they do not respond to behavioral management, then antipsychotic agents may be appropriate. Neuroleptic drugs such as haloperidol, thioridazine, and phenothiazines may help. Again, the dosage should be started low and increased gradually, assessing its effectiveness. Since one of the main side effects of the anti-psychotic drugs is anticholinergic, this has to be taken into consideration when weighing their usage.

Relative Potency and Frequent Side Effects Of Several Major Tranquilizers

In addition to the anticholinergic effects of some of the drugs frequently used in the pharmacological management of restlessness, anxiety, hostility, and paranoia, there are other things to be considered. Hypotension can occur, so extra caution should be exercised when using these drugs in a patient who is known to have some problem with blood pressure. The potential for extrapyramidal symptoms must also be considered, particularly in a patient who may already be experiencing some motor difficulties—Parkinson's disease for example. The most commonly used of these drugs have soporific effects, which can be an advantage if the drug is titrated to a level that helps the patient to remain calm but unsedated during the daytime and promotes better sleep at night.

There are other conditions that may produce or contribute to cognitive deficits, and the most common of all is drug toxicity or drug interactions. It is likely that the Alzheimer patient is also of the geriatric population, and it has been observed by many of us in the health care profession that "old people take too many pills." A careful drug history is therefore important. I have made it a practice in my clinic to have the family bring a current list of all medications, including over-the-counter preparations. I recall one lady I saw several years ago who was on 30 different medications, some prescribed, some bought overthe-counter. She came in with a number of complaints, most of which cleared up after working in conjunction with her other physicians to establish a reduced but more effective medicine regimen.

In the aging patient, there are alterations of pharmacokinetic parameters, which can make prescribing for the person diagnosed as having Alzheimer's disease touchy. Elderly persons have "normal" transfer of most drugs by passive diffusion across the bowel mucosa, so that reduced blood flow and decreased surface area have not appeared to have any great effect on absorption, but with decreased body water in aging, distribution for some water-soluble drugs may be de-

TABLE 1

PSYCHIATRIC SYMPTOMS CAUSED BY DRUGS USED TO TREAT MEDICAL CONDITIONS

Drugs	Side Effects	
Antihypertensives Reserpine Methyldopa Propranolol Clonidine Hydralazine Guanethidine Diuretics	Sedation, fatigue, depression, consti- pation, weakness, confusion	
Analgesics Narcotic Morphine Codeine Meperidine Pentazocine Propoxyphene	Sedation, constipation, confusion, hall lucinations, withdrawal	
Analgesics Non-narcotic Indomethacin	Headache, dizziness, confusion, de- pression	
Antiparkinsonian L-dopa Carbidopa Bromocriptine Trihexyphenidyl	Confusion, hallucinations, depression	
Antihistamines Dipheneramine Hydroxyzine	Sedation, anxiety, confusion, delirium	
Antimicrobials Gentamicin Isoniazid	Psychosis, depression, agitation, hal- lucinations, memory disturbance	
Cardiovascular Digitalis* Lidocaine* Atropine	Fatigue, psychosis, irritability, confusion	
Hypoglycemics† Insulin Sulfonylureas (Tolinase, Diabinese)	Anxiety, irritability, confusion, lethargy	
Steroids Glucocorticoids Estrogen	Lability, euphoria, mania, depression, psychosis	
Cimetidine	Confusion	
Laxatives	Habituation, withdrawal, irritability, insomnia, confusion	
Cancer Chemo-	Somnalence, apathy, lethargy	

^{*}Symptoms noted with toxic levels of this drug.
†May result in psychiatric symptoms by causing hypoglycemia.

therapeutic agents

creased. With increased body fat in aging, the distribution for some fat-soluble drugs also may be increased. Decreased albumin concentration with aging may cause decreased protein binding capacity for some drugs. Renal function is diminished, thus renal clearance of drugs is decreased

ALZHEIMER'S DISEASE/Greene

in the elderly. Hepatic blood flow is also decreased, and high hepatic-clearance drugs will have decreased clearance.

If drug clearance is decreased, the recommended dose as well as its frequency will probably have to be decreased in order to avoid toxicity. Since the Alzheimer patient will most likely be taking at least one drug for control of some associated behavior, this information should be related to the caregiver. In a stressful situation, more than one caregiver has confessed to doubling up on the medications without consulting the physician.

Psychiatric Symptoms Caused by Drugs Used to Treat Medical Conditions

We have seen how the patient's own body can have an effect on the drugs he takes. I should like now to show some of the effects the drugs have on the patient's mentation.

Now, I have here a list of drugs commonly used to treat a variety of medical problems (Table 1). As you can see, most of these drugs can cause confusion and other psychiatric symptoms. Many of the antihypertensive drugs can cause confusion, and the use of diuretics may result in confusion secondary to an electrolyte imbalance. In addition to the confusion, there may be depression, sedation and fatigue.

Analgesics can cause confusion, as well as hallucinations and sedation. Even some non-narcotic preparations can contribute to these same symptoms. Confusion and/or psychiatric symptoms are potential side effects of every medication on this list. If we consider the cognitive decline that may be present in the Alzheimer patient, the picture can become quite complicated indeed. If a drug is suspected of causing or exacerbating confusion or psychiatric symptoms, a trial off the drug should be considered. Observations from the caregivers in the home and from us, the caregivers in the community, become of critical importance in effective management.

Professional Caregiver Issues

Thus far, I have been discussing the management of the patient's medical care, but I want to emphasize that this discussion would be incomplete without addressing the impact of the caregiver's role in patient care. There are several subroles in caregiving: nurse, physical therapist,

social worker, dietician, housekeeper, family, friend, and legal/financial adviser. Many of these roles are managed by a professional who specializes in the required skills. I plan to restrict my discussion and comments to the professional caregivers, although many of these issues and principles will also apply to nonmedical caregivers. Just to emphasize how complicated and difficult the task of caregiving can be, I'd like to have you look at the individual factors that can frequently be attended to and negotiated in the daily care of a dementing patient (Table 2).

As we review all these duties of the caregiver, I think it can be useful to remind ourselves just how important we ourselves are as caregivers, since all too often we tend to become so involved that we neglect our own self-worth. For instance, there are high standards of professional skills required to work with the demented elderly: the caregiver's judgment must be balanced and attentive to all the minute and varied details of assessing the patient's well-being, safety, and health needs. In both long-term and acute care, the entire staff must coordinate complex and varied

TABLE 2

FACTORS REQUIRING CAREGIVER'S JUDGMENT SKILLS

Assistance in Daily Care

Hazards to patient—wet floors, obstacles, smoking, etc. Nutrition and meals—preparation, feeding, choking, weight loss Exercise—walking, stretching

Recreation—hobbies, crafts, reminiscing

Personal hygiene—bathing, dressing, grooming, oral care, supplies Incontinence—urinary, bowel, clean ups

Mobility-walking and balance, falling, wheelchairs

Medical Problems

Pain Dental problems
Falls and injuries Vision problems
Pressure sores Hearing problems
Dehydration Physician visits
Pneumonia Seizures, fits, convulsions
Constipation Myoclonus (jerking movements)
Medication Death of patient

Behavior Problems

Concealed memory loss
Wandering
Sleep disturbances
Day/night reversal

Repetitious questioning
Repetitious actions
Clinging
Complaints and/or insults

Losing/hiding things Demands

Inappropriate sexual Modifying annoying or inappropriate behavior behavior

Mood or Thought Problems

Depression Nervousness or restlessness
Suicide Suspiciousness or paranoia
Alcohol or drug abuse Hallucinations or delusions
Apathy or listlessness Misinterpretation or failure to recognize people or things (agnosia)

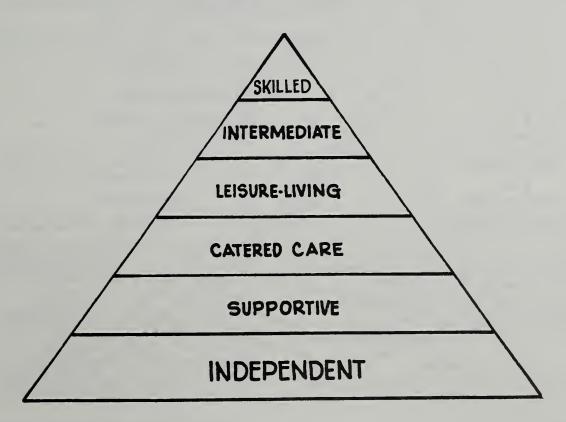
staffing patterns to achieve harmony and effectiveness within the team. You have a profound and highly skilled responsibility to assess the needs of patients, who are often unable to speak for themselves, and frequently may not have relatives or friends who could be advocates for them; frequently those who do care for these unfortunates are verbally abused, criticized, or ignored. In a very insidious way, cultural fears and bias about physical deterioration and death are extended to and directed at those who care for them.

Is it any wonder then, that staff stress levels and casualties are so high in the acute care units and long-term nursing institutions? What can be done to reverse or alleviate the erosion of professional and personal self-esteem that presently is being assaulted on so many fronts?

First, you must guard your own self-esteem by answering some very probing intrapersonal questions: How do I feel about aging? Many persons fear growing older, often taking very elaborate means to deny the inevitable processes of time. How do I feel about my aging parents? Many caregivers are locked into a destructive relationship, either because a patient reminds them of a difficult parent or other family member, or the patient is reminded by you of a parent or sibling. How do I feel about my parents' death? Caregivers get trapped by their own feelings if when they see a dying patient, they see one of their own parents either dying or already dead. These feelings can be difficult to manage if not paralyzing. How do I feel about persons who must live in nursing homes or psychiatric hospitals? Many staff persons bring their own fears and cultural bias into the institutions in which they work. Could this happen to me? This is normal reaction that can produce defensive responses that will harm both the individual and the patient. Finally, what am I doing taking care of these patients? This question is perhaps the most important to resolve before deciding to enter or continue as a caregiver to the dementing elderly patient.

FIGURE 1

LEVELS OF LIVING
IN A PLANNED COMMUNITY



JANUARY, 1985

ALZHEIMER'S DISEASE/Greene

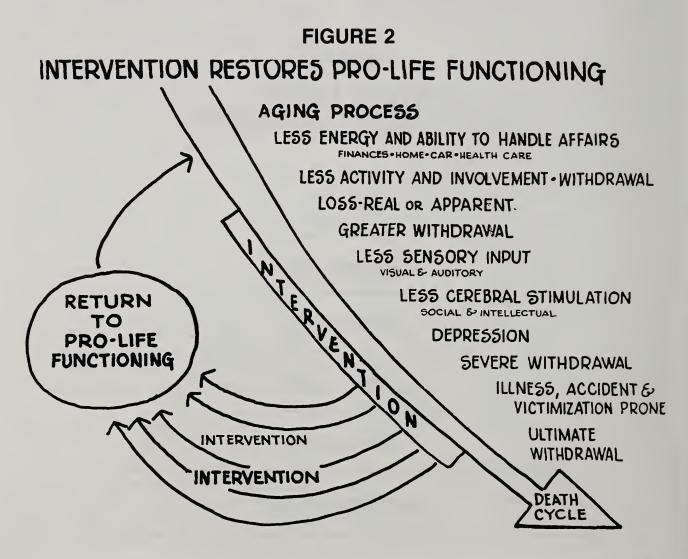
Secondly, it is critical for a professional to identify essential personal inner resources that caregiving requires. The following resources have been identified in the most effective caregivers:1 A belief that every living person has value, a willingness to become involved rather than holding a "professional" distance, a deep pleasure and satisfaction in the skillful performance of complex and simple caretaking responsibilities, an awareness and enjoyment of staff interactions, and a tendency to unify individual and group energy in a mobilization against a perceived "common enemy." Energy used against each other is self-defeating, and contributes little to patient care or self-esteem of the caregiver. Furthermore, the caregiver must hold a conviction that the job is worth the challenge, despite conventional "wisdoms" or medical biases; he must have an enduring and compassionate sense of humor.

Lastly, I also want to encourage each of you to be prepared to take the advice that many of you frequently offer to the families of your patients: take time out for yourself; seek companionship with someone you can talk to and who will support you; read literature on dementing illness; finally, get proper rest, nutrition, exercise, and entertainment.

Future Issues

Much of what has been reported here will probably be of no surprise to the highly experienced and dedicated caregiver. The issues I have presented may help to paint a picture that the caregiver's task is too difficult to be worthwhile. For some of you it will be. But for the professional who is willing and dedicated, the rewards are rich indeed, and to those who make it, I now want to talk about the future.

When we view the aging process historically, and reflect on the possibility that traditional ap-



proaches are all we have to project for the future, continued involvement with an aging population would indeed appear gloomy. There are programs and ideas on the horizon, however, that I want to share as additional support to you as caregivers. We are able not only to discriminate finer points about care levels, but we are beginning to see actual programs and structures that will benefit the patients at their level of need. Let me spend a minute to identify the current thinking about levels of care.

Levels of Care

Fig. 1 pertains to the levels of care in a planned retirement community, but it also applies to the geriatric population at large. A well-planned retirement community can meet the first three levels of care.

At the independent level we find the so-called "empty nesters," those working people whose children have left the nest. These individuals may not need as large a home as before, and have more leisure time. Also at that level are the retired people who need no special assistance. Their big change is a dramatically different lifestyle.

At the supportive level are independent folk who typically are alone and widowed. They often have health care and social needs that can be met by home health care, planned recreational activities, and convenient transportation. Catered care level includes the frail elderly who need greater security and services, such as housekeeping and meals.

Leisure-living is largely custodial. These people have greater medical needs, but do not require institutionalization. Many early Alzheimer patients are found at this level. They can often remain at home when special assistance is given to their caregivers, such as day care or respite care programs.

Adult day care programs are an appropriate solution for the problems presented by many Alzheimer patients (Fig. 2). The general purpose of adult day care is to help mentally and physically impaired adults maintain and improve their level of functioning in their own residential setting. Adult day care offers participants the opportunity to socialize, enjoy peer support, and receive medical and social support in a stimulating and supportive environment that promotes better mental and physical health. Day care also provides assistance to families and caregivers who have responsibility for an impaired adult who cannot be left alone during the day and yet does

not require 24-hour nursing care in an institution. Adult day care programs are a pro-life intervention that may prevent inappropriate institutionalization of impaired adults.

Thousands of older adults around the country are benefiting from participation in adult day care programs, but of the several excellent day care programs here in Knoxville, for example, only a few will accept Alzheimer patients, and then in only very limited numbers.

One solution to this problem is a program oriented toward the needs of not only Alzheimer patients, but patients suffering from varied difficulties associated with aging in general. Psychogeriatric units are an example of this approach, and have acquired successful status at many facilities because they provide highly specialized environments for treatment specific to the needs of the geriatric patient. Using a multidisciplinary, team-oriented approach on the geriatric unit paves the way for more comprehensive diagnosis and treatment of both medical and psychiatric problems.

When thinking in terms of specialized units, we can go a step further and think about units oriented toward the needs of Alzheimer patients and their families. We can have more realistic goals on these units than is possible on the wardat-large. We could offer an environment that allows as much freedom as possible, while at the same time providing security; we could offer specialized communication approaches that allow the patient to maintain his integrity without feeling challenged or demeaned, from which he could gain a sense of belonging and of acceptance, while allowing him to be "where he is." Family and friends could be educated in understanding the patient and in learning to communicate with him in ways that are meaningful; even though the ways may differ from past patterns of interaction. We could provide activities consistent with the patient's level of functioning.

Just as researchers are striving to provide us with the answers that will lead us to prevention or cure of Alzheimer's disease, those of us who are involved in the management of these patients must involve ourselves in research of a different kind. We must look within ourselves for the real challenge, which is in recognizing ourselves as pioneers, blazing new trails of discovery each day, each in his own creative way.

REFERENCES

Howell M: Caretakers' views on responsibilities for the care of the demented elderly. J Am Geriatr Soc 32:658, 1984.

Tennessee Medical Association's

Exclusively Approved

DISABILITY INSURANCE & MAJOR HOSPITAL INSURANCE PROGRAMS

Administered By

Smith, Reed, Thompson & Ellis Co.

P. O. Box 1280 Nashville, Tennessee 37202 Phone 361-6846

Manager
WILLIAM H. ELLIS, C.L.U.

Director of Sales
ROBERT K. ARMSTRONG

Underwritten

SINCE THE PROGRAM'S INCEPTION IN 1942

By

Commercial Insurance Company

Newark, New Jersey

Acute Endogenous Endophthalmitis After Splenectomy

CLARK R. GREGG, M.D. and W. STUART TUCKER, JR., M.D.

Although the septic complications of asplenia are widely recognized, there have been as yet no reported cases of endogenous endophthalmitis following splenectomy. We describe here a patient who simultaneously developed pneumococcal meningitis and acute endogenous endophthalmitis 13 years after splenectomy.

Case Report

A 65-year-old woman had fever, headache, and an inflamed eye. Thirteen years earlier a splenectomy had been performed during a gastrectomy to control bleeding esophageal varices resulting from postnecrotic cirrhosis. She never received pneumococcal vaccine. There was no history of otitis, mastoiditis, sinusitis, pneumonia, heart murmur, peritonitis, eye trauma, or eye surgery.

She awoke the day of admission with headache, neck stiffness, dizziness, and a reddened left eye in which vision was failing. At her local hospital a physical examination revealed neck stiffness and an inflamed left eye, but a detailed eye examination was not performed. The CSF was consistent with pyogenic infection, and cultures from it grew *Streptococcus pneumoniae*. Treatment was initiated with ampicillin, 1 gm intravenously (IV) every four hours plus chloramphenicol, 1 gm IV every four hours. The meningitis resolved uneventfully, but because her vision worsened, she was transferred four days later to St. Thomas Hospital for further evaluation.

The right eye was normal on examination, but the left eye showed bulbar conjunctivitis without pus or follicular change. The anterior chamber fluid was turbid; the pupil was small and had posterior synechiae, and there was ciliary injection. The vitreous was hazy, with exudate inferotemporally; the retina and optic disc were not visible. She could perceive only light. There were no extraocular muscle palsies, and the remainder of the physical examination was normal, as was a computerized tomographic scan of the brain.

The patient was treated with aqueous penicillin 3.5 million units IV every four hours, and topical atropine and corticosteroid ophthalmic drops. By the completion of three weeks of penicillin therapy there was still only light perception with the left eye, and subsequently the eye has gradually become blind and phthisic.

Discussion

Endogenous endophthalmitis in an immunologically normal host has been a rare illness in the antibiotic era, but when it has occurred, historically the pneumococcus has been frequently implicated.1 In patients who have undergone splenectomy, the frequency of dramatic complications of pneumonia, bacteremia, meningitis, and overwhelming bacterial sepsis with disseminated intravascular coagulation is widely appreciated; they may occur many years after the spleen is removed, 2 and are usually due to S. pneumoniae or less often Hemophilus influenzae, Neisseria meningitidis, or other bacteria. Recent reviews of the septic complications splenectomy^{2,3} and our own literature search disclosed no reported cases of metastatic endophthalmitis as a manifestation of postsplenectomy infection. Because our patient had already received four days of antibiotic therapy, which had been effective for her pneumococcal meningitis, an aspiration of the anterior chamber of the eve to attempt confirmation that S. pneumoniae was the etiology of the endophthalmitis was not performed. Nonetheless, it is highly probable that the endophthalmitis resulted from pneumococcal bacteremia.

Whether this patient's postnecrotic cirrhosis added additional predisposition to pneumococcal bacteremia is conjectural, but there was no evidence in her case for spontaneous bacterial peritonitis. Neither did she develop infective endocarditis, recognized as predisposing to endogenous endophthalmitis.

Physicians, surgeons, and ophthalmologists should be aware that endogenous bacterial endophthalmitis may be an unusual late septic complication of splenectomy. The outcome of our patient's endophthalmitis following high dose intravenous antibiotic therapy must be judged as

JANUARY, 1985

From the Division of Infectious Diseases, Department of Medicine, Vanderbilt University School of Medicine and St. Thomas Hospital, Nashville. Dr. Tucker is now with the Nalle Clinic, Charlotte, N.C.

Reprint requests to P.O. Box 380, Nashville, TN 37202 (Dr. Gregg).

poor. Early combined intravenous and intravitreous administration of appropriate antibiotics and perhaps vitrectomy may be necessary for the treatment of acute bacterial endophthalmitis in order to regain useful vision or indeed to salvage the eye.4

Duke-Elder S, Perkins ES: Bacterial uveitis, in Duke-Elder S (ed): System of Ophthalmology, vol IX. St. Louis, CV Mosby Co, 1966, pp 222-224.
 Van Wyck DB: Overwhelming postsplenectomy infection (OPSI): the clinical syndrome. Lymphology 16:107-114, 1983.
 Zarrabi MH, Rosner F: Serious infections in adults following splenectomy

for trauma. Arch Intern Med 144:1421-1424, 1984.

4. Barza M: Treatment of bacterial infections of the eye, in Remington JS, Swartz MN (eds): Current Clinical Topics in Infectious Diseases. New York, McGraw-Hill, 1980, pp 158-194.

Help for Impaired Physicians

Through its Committee on Impaired Physicians, TMA helps doctors who are suffering from alcoholism and drug addiction. The thrust of the program is rehabilitative, not punitive. The Committee is composed of physicians who have special expertise in these areas, some from personal experience. Effective treatment for these illnesses is achieved most easily when the disease is detected early and family, friends, and associates are urged to avoid misguided sympathy which enables the condition to deteriorate.

HELP US TO HELP

Call the TMA Impaired Physician Program (615) 327-2711; outside Nashville call collect. Phone service available around the clock.

A Survey of Health Promotion Programs of Tennessee Employers

STEVE M. DORMAN, MPH, Ph.D.

Introduction

The prevalence of health promotion programs conducted at the worksite has greatly increased in recent years. The popularization of this movement has led employers to approach health promotion in divers ways. Some employers hire their own personnel to conduct these programs, while others contract the services of an outside consultant or agency. Ultimately there must be a systematic evaluation as to cost effectiveness of these varying approaches. A first step in this direction, though, must be a thorough analysis and description of what is presently being offered at the workplace. Several studies in northern and western states have attempted to collect this information.¹⁻⁶ This is the first comprehensive study of employee health promotion in a southern state.

Methodology

A complete listing of all Tennessee employers with more than 100 employees, based upon unemployment insurance tax records as of March 1984, and containing 2,264 entries, was obtained from the Tennessee Department of Employment Security. After the listings were stratified according to number of employees into five cells (100-250, 250-500, 500-1,000, 1,000-2,500 and 2,500 over) to ensure a proportional draw to size, a 10% sample⁷ was taken from each stratum, making the total sample size 226.

The survey instrument selected was developed for a similar type survey conducted in California by Fielding and Breslow.^{2,3} We obtained permission for its use. The data were obtained from the employers in the spring of 1984. Calls were made from the East Tennessee Regional Office of the

Tennessee Department of Health and Environment in Knoxville, on lines made available by the TDHE. Each interview call lasted approximately 20 minutes.

Results

Completed interviews were collected from 122 of the 226 employers in the sample, constituting a 54% return rate. Reasons for failure to complete include failure to meet study requirements, inability to find appropriate in-state phone listing, refusal by employer to participate, and disconnected phone service.

Of the completed interviews, 47.5% were with manufacturing industries, 30.3% with service industries such as medical or food services, 8.2% with government agencies, and 7.4% with educational institutions.

Table 1 shows the type of health promotion programs reported by the 122 respondents as being made available to employees. Several of the employers reported the use of outside agen-

TABLE 1

DISTRIBUTION OF 122 EMPLOYERS WHO HAVE PROGRAMS
BY TYPE OF PROGRAM

Type of Program		Frequency	Percent
Hypertension screening/control		25	20.5
Smoking cessation/contro	ol	13	10.7
Weight control		10	8.2
Mental health		13	10.7
Nutrition training		10	8.2
CPR		47	38.5
Exercise/fitness		18	14.8
Drug/alcohol abuse		15	12.3
Stress management		16	13.1
Accident prevention		80	34.4
On and off job	(42)	(;	34.4)
On job safety only	(38)	(;	31.1)
Cancer risk reduction		8	6.6

From the Division of Health and Safety, University of Tennessee, Knoxville. Dr. Dorman is now with the Mecklenburg County Health Department, Charlotte, N.C.

JANUARY, 1985 27

Reprint requests to the Mecklenburg County Health Department, 249 Billingsley Road, Charlotte, NC 28211 (Dr. Dorman).

HEALTH PROMOTION PROGRAMS/Dorman

cies either to complement or implement their own health promotion programs (Table 2).

Other employee health services that are sometimes provided for employees are shown in Table 3. Special disease screening included such things as sickle cell anemia, diabetes, or hearing testing.

It must be remembered that the survey technique used in this study has several limitations. Because only one individual at each company responded to the survey, there is a strong possibility that responses were shaded by individual perception. Also, responses to the survey tell us very little about the quality of the programs.

Limitations notwithstanding, the survey did have several benefits. Types of health promotion programs being offered in the workplace were reported, and to some degree a profile of these programs developed.

It should also be noted that in at least four separate localities in the state, respondents to the survey reported that business coalitions had been formed with the prime objective of exchanging information to decrease health care cost.

This study also served as a "consciousness

TABLE 2

DISTRIBUTION OF 122 EMPLOYERS WHO
USE OUTSIDE AGENCIES
BY AGENCY

Agency	Frequency	Percent
American Red Cross	41	33.6
American Cancer Society	14	11.5
American Heart Association	19	15.6
American Lung Association	10	8.2
Public Health Agency	13	10.7
YMCA/YWCA	2	1.6
Weight Watchers	3	2.5
Local hospital	12	9.8

TABLE 3

DISTRIBUTION OF 122 EMPLOYERS RESPONDING TO SURVEY BY EMPLOYEE SERVICES OFFERED

Service	Frequency	Percent
On-site doctor	11	9.0
On-site nurse	36	29.5
Facilities for exercise	32	26.2
Cafeteria	53	43.4
Vending machines	115	94.3
Health risk appraisals	11	9.0
Routine physicals for active		
management	47	38.5
Routine physicals—		
all employees	13	10.7
Pre-employment physicals	55	45.1
Special disease screening	23	18.9
CPR	63	51.6
First aid training	63	51.6
Financial counseling	23	18.9
Legal counseling	4	3.3
Family crisis counseling	19	15.6
Retirement planning	40	32.8
Family planning	3	2.5

raising" technique, and perhaps it will be the impetus needed for other employers to consider the implementation of health promotion programs for their employees.

Acknowledgments:

This study was made possible in part by a grant from the Tennessee Department of Health and Environment, Health Promotion Unit.

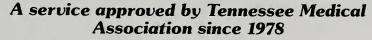
Special thanks to Mary Jane Dewey, John Fortune, and Jimmy Scheer.

REFERENCES

- 1. Fielding J, Breslow L: Health promotion programs sponsored by California employer. Am J Public Health 73:538-542, 1983.
- Fielding J, Breslow L: Worksite hypertension programs: results of a survey of 424 California employers. *Public Health Reports* 98:127-132, 1983.
 Health Workings. Seattle, Wash, Puget Sound Health Systems Agency,
- 3. Health Workings. Seattle, Wash, Puget Sound Health Systems Agency. 1983.
 - 4. Industry roles in health care. Conference Board Reports 610:49-50, 1974.
- Kiefhaber A, Goldbeck W: Industry's response: a survey of employee assistance programs. Industrial Health Care 9:19-26, 1980.
- 6. Corporate Fitness Programs: Trends and Results. Los Angeles, Calif, Fitness Systems Inc, 1980.
- 7. Champion D: Basic Statistics for Social Research. New York, McMillan Publishing Co, Inc, 1981.

CUT the COST of your workers' compensation insurance with the Dodson Plan!

15% advance discount applies PLUS dividends averaging 23.5%



With Dodson, you also benefit these ways:

- Yearly dividend paid as earned at year-end, based on cost of claims from all insured.
- Quick, efficient claim handling, often completed within 48 hours.
- New, no-charge payment plans.

Write us or call toll-free for full details:

Insurance provided by

CASUALTY RECIPROCAL EXCHANGE

Member of Dodson Insurance Group P.O. Box 559, Kansas City, MO 64141 800-821-3760

"We now have a concise profile of practice productivity." "We have eight terminals in constant use. I'm happy to report that we've had no downtime problems and Reynolds + Reynolds has always been extremely responsive to our needs. Since our Reynolds + Reynolds Medical Practice Management System was installed we've learned vital facts about our practicenumber of visits, procedures performed, physician activity. We now have a concise profile of our practice productivity, and cash flow has evened out as a result of the new billing system. I'd estimate that accounts receivable have decreased by 15% or more.' For more information on how the Medical Practice Management System can improve your practice too, complete the coupon below. LVT, INC. Computer Consulting an authorized agent for 2000 Commerce Union Towers Revnolds+Revnolds Chattanooga, Tennessee 37450 Telephone: (615) 755-6904 Please send your Medical Practice Management System Brochure. Dr. Meyerhoffer, M.D. Pediatrics, Cleveland, OH. Please have an authorized agent contact me. PHYSICIAN: OFFICE MANAGER: NO. OF PHYSICIANS: ____ __ SPECIALTY: ___ © 1984 The Reynolds and Reynolds Company. All rights reserved.

We're Hardware. We're Software. We're Everywhere.

Infant High Risk Registry in Tennessee

FREDIA S. WADLEY, M.D., MSHPA

A High Risk Registry for infants of Tennessee has been discussed since the recommendations of Gov. Lamar Alexander's Mental Retardation Prevention Task Force were finalized. One of the nine goals of this Task Force for the prevention of mental retardation was that all children at high risk for handicapping conditions be given treatment and education services at the earliest possible age.

The Healthy Children Task Force charged the Department of Health and Environment with the design and implementation of the registry. Input was requested from various professionals who provide health, educational, or social services for handicapped children.

It was apparent that not everyone was in agreement as to how the registry should be developed. Three questions had to be resolved.

- 1. How should the registry be used? The intent of the Mental Retardation Task Force was that the registry would be used to follow infants closely in order to prevent problems. In July 1984 the Department of Health and Environment implemented the statewide Infant Follow-Up Program, and from its inception it was understood that infants on the High Risk Registry would receive priority status for follow-up services.
- 2. Should only infants with high risk indicators be on the registry, or should infants diagnosed as having significant handicapping conditions be included? Although the presence of both groups can be justified, it was agreed that infants diagnosed as having a handicapping condition will more likely be followed and provided services than infants who have high risk factors but no definitive diagnosis. Secondly, high risk indicators can be collected from birth certificates, but a separate data collection mechanism would have to be de-

vised to adequately identify infants with handicapping conditions. Although "Down Syndrome" and "Congenital Anomalies" are listed on the birth certificate, the diagnosis of such problems is often not made or confirmed for weeks or months after discharge from the newborn nursery.

3. What type of high risk indicators should be used? Although many recognize that social indicators such as age, marital status, and educational level of the mother can have a significant bearing upon the health and well-being of the infant, it was decided to start with only biologic indicators and then expand as capability for additional services is demonstrated.

The four indicators finally chosen for initiation of the High Risk Registry were

- Birth weight of less than 1,500 gm.
- Five minute Apgar score of 5 or less in infants weighing 2,000 gm or more, or 3 or less in infants weighing less than 2,000 gm.
- Hearing loss in a family member which was present since birth or early childhood.
- Down syndrome.

You may immediately recognize that Down syndrome is not a risk factor but a diagnosis, but many of the Department's advisors for the registry believed that the number of involved children and their many needs justified adding it to the list. Nevertheless, it was recognized that since "Down Syndrome" would be checked on the birth certificate before the diagnosis could be confirmed by a chromosomal analysis, health department staff should not contact a parent directly about so sensitive an issue. Instead, staff will contact the reporting physician to see if the diagnosis has been confirmed and to provide a list of community services which the physician might like to utilize for any of his patients with Down

(Continued on page 32)

From the Tennessee Department of Health and Environment, Nashville.

Vicarious Liability and the Physician's Assistant

J. KELLEY AVERY, M.D.

Case Report

A 60-year-old woman with adult-onset diabetes was admitted to the hospital for workup of possible gallbladder disease. Control of the diabetes had been satisfactorily maintained for the past ten years with 25 units NPH insulin every morning. A thorough outpatient workup revealed no significant findings except for her controlled diabetes and cholelithiasis.

Preoperative laboratory work was essentially within normal limits except for a fasting blood sugar of 190. Urinalysis was negative for sugar and acetone. Prior to surgery, the physician's assistant (PA) visited the patient, introduced himself, and explained that he would be assisting her physician during her care in the hospital. The following morning the patient was taken to the operating room where an uneventful cholecystectomy was done. Intraoperatively, the patient received 5% dextrose in Ringer's lactate solution at a rate sufficient to keep urine output at 30 cc/hr. Intraoperative urine tests revealed a trace of sugar but no acetone.

Postoperative orders written by the surgeon included IV of 5% dextrose in ¼ normal saline to keep the vein open, discontinue IV when American Diabetic Association (ADA) clear liquid diet is tolerated, a blood sugar at 4:00 p.m., and a sliding scale insulin coverage as indicated by urine sugars every four hours. The 4:00 p.m. blood sugar was drawn as ordered and was reported at 210 mg/dl.

The patient progressed most satisfactorily in the immediate postoperative phase. The ADA clear liquid diet was begun on the third postoperative day as ordered. Urine testing before meals and at bedtime following the administration of the clear liquid diet revealed 1+ to 3+ blood sugars. No report as to acetone was done. Subcutaneous insulin was given before meals and at bedtime per sliding scale as ordered.

On the fourth postoperative day, the patient complained of anorexia and generalized abdominal discomfort, and shortly developed rather marked nausea and vomiting and later hypotension. The surgeon's PA was notified, saw the patient promptly, and anticipating possible dehydration, ordered IV fluids to be administered at 125 cc/hr. Nasal gastric suction was also instituted to empty the stomach and alleviate the nausea and vomiting. The PA did not order any laboratory work, and the operating surgeon was not consulted.

In reviewing the orders, the nurse noted that the type of IV solution was not specified. The nurse called the PA, who ordered 5% dextrose in water, which was begun at 125 cc/hr. The patient was also given 50 mg of hydroxyzine (Vistaril) IM for her nausea and vomiting. Following this she became very drowsy, the vomiting diminished, and she slept soundly for eight hours or more.

When she was seen on morning rounds by the surgeon and the PA, the patient was found still to be very lethargic. Stat laboratory work revealed a blood sugar of 1,200 mg/dl and pH of 7.1. She was immediately treated appropriately with bicarbonate, fluids, and insulin, and her ketoacidosis was reversed over the next 24 hours, but her vision markedly deteriorated. Her regular ophthalmologist had examined her just two weeks earlier, and believed that this was due to severe microvascular changes in the retina directly related to her severe ketoacidosis in the hospital.

The patient sued the physician, the PA, and the hospital, alleging that she was improperly

JANUARY, 1985

Dr. Avery is the medical director of State Volunteer Mutual Insurance Company.

treated postoperatively, leading to severe ketoacidosis, which resulted in her marked visual damage.

Loss Prevention Notes

The law allows the use of a variety of personnel to assist us in our practice of medicine. In the case of the unlicensed physician's assistant, the law sets out fairly detailed parameters for their use. Among other things, the law requires that "before a physician's trained assistant may render therapy or treatment to a new patient of the supervising physician, or to a regular patient of the supervising physician expressing a new or previously untreated condition, that patient's problem shall be personally evaluated by the supervising physician."

It is clear that both the physician and the PA were acting outside the law in this particular situation. Even if the physician had a detailed protocol under which the PA was allowed to participate in the postoperative management of patients, this particular patient had certainly experienced a change in her condition and thus the

law would require the personal evaluation of the attending physician.

Under a doctrine known as "vicarious liability," it is unlikely that the physician would escape liability if the PA departed from a strictly written protocol. In this situation, the hospital also could find itself liable, since it is assumed that the hospital has some responsibility for the activities of persons participating in patient care.

The case written is clearly one where the PA acted far beyond his level of competence. This case could conceivably be a situation where punitive damages would be called for by the plaintiff counsel, alleging that there was flagrant disregard of statutory requirements in the relationship between the physician and his assistant.

We need help in practicing medicine. We need competent paramedicals in many areas of our practice, and can hardly do without them. We must constantly keep in mind, however, that the privilege of using paraprofessionals in our practice assumes that we take the responsibility for their supervision.

Health and Environment Report . . .

(Continued from page 30)

syndrome. This verification of the diagnosis for the birth certificate and provision of information will not interfere with the physician-patient relationship. Consent will be obtained from parents before placing an infant on the registry, since it is a mechanism to provide follow-up services; if parents do not want this service there is no need to have their infant on the registry.

The High Risk Registry will not be implemented until January or March of 1985. The Infant Follow-Up Subcommittee of the Healthy

Children Initiative must finalize their recommendations for guidelines on following these high risk infants. Many advisors still believe that the registry should include infants diagnosed as having a significant birth defect, genetic disorder, or handicapping condition. The data collection mechanism for this is being pursued as well as which diagnoses might be included.

Physicians will be informed of further details concerning the Tennessee High Risk Registry before it is implemented.

I Have What?

Illness and the Medical Profession (Whom I Admire)

F. BENTON MILLER

Having recently had experience in one of the areas the medical profession deals with, I would like to share with you some of the interesting developments from my side of the bed. I think most of us have admiration for doctors, myself included; so, this is where my "story" begins . . .

I walked out of my doctor's office in a glow; feeling horrible physically was irrelevant, since he had assured me that I was in 100% good health, with perhaps a minor sinus problem. . . . Lunch at the best restaurant in town was in order, but why did I not feel like eating and practically fall out of my chair—those sinuses? I'll just go home and rest—for three days (something I never do); it was almost fun except for the head and stomach pain. Finally, having decided to make a grand impression, I went to the emergency room, where I received an impressive group of prescriptions for my good old sinuses. The next day, not feeling able to continue to "rest and have fun," with some family help, I got myself admitted to the hospital.

Then, of course, the fun really began—nurses, some very good ones, by the way, doctors, eventually, and, most important of all, orderlies, who are the only ones who ever allow you to sneak a read at your chart. (All this was, of course, after a marvelous lifetime interview with emergency and hospital administration, who now know more about my income than I do.)

Still trusting my doctors entirely, it was hard to believe that they suggested that I had a drug problem and that they would like to see me up and around. They did mention the possibility of running a bunch of medicine into my lower parts and checking out my stomach and colon, but with the help of my family, the docs were convinced that I did not have the energy for that one right away.

The next adventure was that I was being considered as having mental problems, and perhaps a family-friend recommended psychiatrist was our next step. By this time, I was certainly a good candidate for that and agreed entirely. After all, I have been exposed to mental problems in others for years, and I took this as no insult. Ironically, the psychiatrist thought I was mentally fine. "I'm here to be treated, and I would at least like to have something a little impressive," I thought. Well . . . I got it!

The doctors finally decided to do some tests where they check your head, somewhat like they would a possible broken arm. "I have what?" was my first response, when the doctor began to tell me the results. And then a *great* feeling of relief came over me such as I have rarely experienced before, "Now they know, and I will be fine, for I trust them!" And I still did. (I still do now.)

There was my neurosurgeon, who explained to me (when they got me feeling better with some drugs) that the problem was a brain tumor. (I still did not see it as a cancer; I even have a hard time doing that to this day.) He told me of the necessity of surgery, the possibility of loss of speech, moving, etc., and yet the certainty of death without it. He was honest and worried—I appreciated that; so, I assured him, he would do well, and he did!

Of course, trusting my surgeon and having adopted him as an inner friend helped immensely. The first thing I remember doing in ICU after the surgery was grunting with my voice (I could still speak!), and the next thing I remember was imagining my fingers to be playing piano scales. (I could still move!) I wasn't only doing this to feel better; it was truly important to me that my doctor, whom I trusted because of his manner and involvement, could see, as soon as possible, his success.

As my healing continues, I still have a mental dependency on the trust and honor I have for my neurosurgeon. His opinion on every CAT scan and check-up are of ultimate importance. Other doctors, too, such as those in charge of chemo- and radiation-therapy and internists have a great impact. I always stress with them the importance of their directness and honesty—good news or bad.

I know I am lucky to have the doctors I do; the ones who are human and relate are irreplaceable! Yet, I'm now entering a new era—my depression over what has developed in me and my puzzlement over the future. I know their support will continue, and I will continue to support them—we both need each other's help to succeed.

In conclusion, I would like to thank the medical profession for their continued growth in this field. And I must also insist that a doctor's relationship with me is *as* important, if not *more* important, than the professional action.

3116 Marion Dr. Knoxville, TN 37918

Unity = Strength

During my term as president of the Tennessee Medical Association Auxiliary, I have attempted to practice my theme "Unity = Strength" with each county auxiliary and state committee chairmen as I have worked closely with them. My logo is a four linked chain swagged across the state of Tennessee, each link representing a region of the Auxiliary.

With the trends in health care, the concerns of health care costs, various medical groups and organizations being formed, and the closing of many hospitals being predicted, I have encouraged auxilians to give moral support to their spouses and to each other during this

transition period.

The TMA Auxiliary has been asked to cosponsor three coalitions. First is the Conference on School Health Education. Its purpose is to study the necessity for health education in Tennessee and to determine a Comprehensive Health Education Curriculum for grades K through 6. Debbie Godwin (Mrs. Charles W.), Knoxville, is our representative on the Planning Committee with Dr. William Wadlington, TMA Board representative. The Conference was held Oct. 4-5, 1984 at the Vanderbilt Plaza Hotel, Nashville, with several physicians and auxilians attending.

The Health Promotion Division of the Tennessee Department of Health and Environment has asked our help in advising and directing the effort to promote the health of our older citizens. Ellen Lawson (Mrs. Albert R.), Nashville, was appointed as our representative.

The third coalition is Governor Alexander's Healthy Children Initiative, giving particular attention to the prevention of teenage pregnancy. The Auxiliary has been asked to mail and pay postage for invitations to auxilians to attend conferences on "Teen Pregnancy: Problems and Prospects." In conjunction with the con-

ferences, auxilians have been asked to host a luncheon for 20 to 25 key medical and health leaders for a special presentation by Honey Alexander, John W. Greene, M.D. or F. Joseph McLaughlin, Ph.D., and State Senator Douglas Henry, Jr. This complies with the AMA Auxiliary Health Project's emphasis for 1984-1985 on "Prenatal and Postnatal Care"; their concern in offering counsel and information about pregnancy, parturition and infant care, through which pregnant women are being encouraged to take an active role in personal health habits that will have positive effects on fetal health. Several prenatal and postnatal care programs are already underway, with Auxiliary-sponsored parenting education classes and pamphlet distribution.

The Auxiliary was very active in promoting the Project Med-Vote registration campaign so that medicine's voice would be heard in the 1984 elections.

Tennessee continues to be one of the top national contributors to the AMA-ERF fund-raising program, with an increase of \$8,035.08 over this time last year.

Leadership training and timely health topics were presented to those presidents and presidents-elect who attended Confluence in Chicago, Oct. 14-16, 1984 in Chicago. A variety of seminars were offered to help participants strengthen their leadership skills in such areas as legislation, parliamentary procedure, working with the media, and managing conflict. Topics on "Coping with Malpractice Problems," "Adolescents—Surviving or Thriving?," "Mid/Life Crisis: Dead End Or Opportunity?," "Prenatal and Postnatal Care," "Being A Leader," and "Parent/Child Relationships" were addressed. Guest speakers were James H. Sammons, M.D., executive vice president of the American Medical Association, and AMA President Joseph F. Boyle, M.D.

Wanda Gutch, President TMA Auxiliary

president's page



THOMAS K. BALLARD

Teenagers

It is amazing to me that the teenagers of our day are able to cope with the stress placed upon them by their home environment, their school activities, their peers, and the pressures of their jobs.

I am challenged each day by the teenagers who present themselves to my office for their physical problems as well as their mental problems. Teenagers seem to have a common trait, and that is an intense desire to achieve lifestyles that are acceptable to them. In their own way they attempt to solve these complex problems with or without the help of their parents. Somehow our society as a whole does not give to them the stability for which they yearn.

May I present to you an alarming set of statistics of which I was not totally aware? Do you know that the suicide rate for teenagers has tripled in the past 20 years and is now the leading cause of death among teenage boys? Do you know that alcohol and drugs are responsible for the death of at least 8,000 teenage drivers a year and for traffic injuries of approximately 40,000 others? Do you know that among the 1 million teenage girls that become pregnant each year, more than one-half of that number are unmarried and 20,000 are under the age of 14? Approximately 400,000 of these girls have abortions each year.

There is to me a cause for this, and I believe that it is the disintegration of the family unit, which has presented to our teenagers changes in their social and economic values. For instance, working mothers and fathers give them less support than in the past, and more teenagers are at home alone without supervision. Exposure to television, drugs, alcohol, marijuana and inappropriate advertising places teenagers in jeopardy in their attempts to cope with these pressures.

There is an answer to this problem which we as physicians can help to provide. We can serve by counseling our teenagers. We can give them our time so that they can see that there is someone who is available to help them. We can serve their best interests by talking with their parents, their teachers, and their peers to help them achieve their goals. We in the medical profession have a unique position which we can use to a better advantage if only we will make ourselves available.

In the very near future our teenagers will be the backbone of our society. We need to guide these young people so that they can use their intelligence to best advantage. They will soon be in the positions that we now occupy.

Shomes 16 Ballord in o

journal of the tennessee medical association

PUBLISHED MONTHLY

DEVOTED TO THE INTERESTS OF THE MEDICAL PROFESSION OF TENNESSEE

OFFICE OF PUBLICATION: 112 LOUISE AVENUE, NASHVILLE, TN 37203

JOHN B. THOMISON, M.D., EDITOR
ADDISON B. SCOVILLE, JR., M.D., ASSOCIATE EDITOR
JEAN WISHNICK, MANAGING EDITOR

Acceptance for mailing at special rate of postage provided for in Section 1103, Act of October 3, 1917, authorized July 15, 1932.

Copyright for protection against republication. Journals of the American Medical Association and of other state medical associations may feel free to quote from this Journal whenever they desire merely giving credit to this publication.

Address papers, discussions and scientific matter to: John B. Thomison, M.D., Editor, P.O. Box 70, Nashville, TN 37202

Address organizational matters to L. Hadley Williams, Executive Director, 112 Louise Avenue, Nashville, TN 37203

COMMITTEE ON SCIENTIFIC AFFAIRS

OSCAR M. McCALLUM, M.D., Chairman, Henderson SIDNEY L. BICKNELL, M.D., Jackson WINSTON P. CAINE, M.D., Chattanooga CLAUDE H. CROCKETT, JR., M.D., Bristol FRANCIS W. GLUCK, JR., M.D., Nashville JOHN B. THOMISON, M.D., Nashville, Ex-Officio

JANUARY, 1985

editorials

Happy Second Half of the 1980s

When I began writing this sentence, my watch told me the time was 34 minutes and 37 seconds after nine AM on Tuesday, November 21. It is now 9:35:48. I wrote slowly. I wrote slowly because transferring those data from my digital watch through synapses to the page took some doing. It did in fact take a lot more doing than eyeballing a dial watch to come up with the information that it

is about half past nine, give or take a few minutes. Even though it was more precise, I'm not sure the added information is all that useful, unless one is coordinating an artillery barrage with an infantry attack. The digital clock simply compounds our enslavement to time, and what's more, no matter what the embellishment, it is hard to make a digital clock (or watch) very attractive.

Not only that. This digital watch is fairly—not enormously, but fairly—expensive, yet in hot weather it tends to forget what time it is as moisture corrodes its contacts and blots out its little memory. I'm assured that digital watches are not supposed to do that, and mine was repaired twice during its warranty period at no cost—that is, at no cost except for the six dollar postage and handling charge each time. A colleague of mine uses throwaway digital watches that cost less than the battery for mine, and perhaps that's the answer. I believe, though, that the answer for me is to go back to the Mido I got in a PX in 1943. It was ten years before anyone had to go into its insides. I never had to wind it up until it was about 30 years old, when somehow its self-winder quit working. If I remember to wind it every other day, though, it still does fine, and I found that not too difficult an accommodation. That complication is a lot easier to deal with than the blank face on the digital, which requires taking the back off and cleaning the contacts—not too difficult unless I manage to drop one of its little bitty screws, which happens sometimes. (That sounds as if I have to go into it frequently. I do—rather.)

Whenever I go traveling now, I take my wonderful old faithful Swiss Mido with me as a backup, and so I have to ask, why bother with the digital at all? Well, I don't know how a man on the go can function without knowing it's *precisely* 9:35:48. (Actually, the sweep second hand on my Mido can do as well—better, in fact, since I can tell when it is 9:35:48 and a half, when on the contrary I never know on the digital how close it is to the previous—or next—second. I guess, then, the answer has to be, "How else will a body know I'm a man on the go?")

The digital does actually have certain advantages. It will tell me the date, for instance—if it hasn't forgotten it—and its face is easier to see at night because it has a little light that I can switch on. (With age, the phosphorescence of the Mido has faded some—or, rather, lots.) In practice, though, I almost always know the date as well as my watch does (sometimes better), and I almost never turn on its light. It also has an alarm, which

I have used once or twice, except that you can hear it well only in the quiet hours of the night, and then it wouldn't wake you up; in any case, I don't wear my watch at night. It also has a stop watch, for which I have no use at all. With all that then, the next time the digital's face goes blank, I may just leave it lay.

Now you may be wondering at this juncture just what all this is apropos of. When the New Year of 1980 rolled around, and there was so much hoopla about the New Decade, I observed that such divisions of time are really useless, as nothing of any significance ever depends on calendar changes. Even taxes come due year by year and not by decades, and the moon comes up the same whether or not we change the calendar.

You can imagine my—what is the right word—amusement, chagrin, annoyance? I guess amusement. You can imagine my amusement, then, when a commentator recently began his column by forecasting what the *second half* of this decade (which, in case, like me, you hadn't noticed is coming up) holds in store for us.

Egad! We are even more slaves to time than I had thought! It might make more sense to go back to the Year of the Horse or Chicken or Rabbit, and so on, and stick to sundials. On the other hand, how would we ever find our favorite TV program or catch that airplane to wherever?

If this has not proved too disconcerting, have a Happy New Year. I daresay that if such things bother you, if I have not ruined the New Year for you, something else soon will.

Don't let it! To quote my favorite philosopher, Alfred E. Newman, "What? Me worry?"

J.B.T.

Special Spouse Space

How the doctor's wife relates to her husband's medical practice varies from one individual couple to another, and in fact the way doctors and doctors' wives as groups relate to each other changes from year to year. Even that opening statement is only partly correct today. When I went into medicine some 40 odd years ago it would have been mostly true, but today one would more properly need to use the word "spouse" than "wife," as one now finds increasing numbers of female doctors with non-medical husbands. My observation of that phenomenon is so limited, though, that I

hope you will forgive me, and not ascribe it to piggish male chauvinism, if I restrict my comments to the situation as I have observed it through most of my career, which is that of a male doctor and a non-medical *female* spouse. Since my remarks will also be generalizations, they will share the common flaw of such observations, which is that they ignore the exceptions. So much for the disclaimers.

There has been a lot written, not without basis, in reproof of doctors for disregarding the sensibilities of their families. Even though it sometimes seems to approach callousness, it is seldom-I hesitate to say never-willful, as in medical practice patient interests are-indeed need to begenerally put first. At least, they have been in the past, though there are signs that ship is leaking and listing badly. There have always been some wives who have intimately involved themselves in their husband's practice—sometimes to the doctor's discomfiture-and some have also had their own careers, particularly during training days, but until relatively recently most simply stuck to running the home and rearing the children, encouraging hubby where they could, and generally bearing up, often even cheerfully, under the disappointments of missed parties and late dinners taken long overdone from the oven. Though some marriages broke under the strain, most survived, and some even flourished.

As I remember it—and I may be in error—the medical auxiliary in those days seemed to be mostly a social organization, useful for arranging social functions and getting the girls together to share miseries. Though a few wives made a career of auxiliary work, going on to bigger and better things at state and national levels, most seemed to be able to take it or leave it alone. I have never been quite sure how much participation there was among doctors' wives generally, but I suspect it may have been—may still be—roughly proportional to the participation in organized medicine by their spouses—i.e., small.

Whether as a result of contemporary female activism generally, or of other factors or both, I'm not sure, but for the last couple of decades the auxiliary has blossomed as an active organization in its own right. Through some of their various projects they have raised a lot of money for the AMA's Education and Research Fund, the proceeds of which are distributed to the nation's medical institutions. Auxilians have become partners in fact with their spouses in the world of health care, speaking out as a body on public issues in matters of health. They have their own office at

JANUARY, 1985

AMA headquarters, with a capable, energetic full time director, Hazel Lewis, and publish their own journal, *Facets*.

In perhaps belated recognition of this expanded role of the auxiliary, the *Journal* has invited the president of the TMA Auxiliary or her (his, if and when that ever becomes appropriate) designee to submit a report from time to time for the edification of our membership. It can be as frequent as monthly, or however less frequently the president desires. On its first appearance here, the *Journal* welcomes the Auxiliary to its pages.

J.B.T.

Daytime Thoughts on Listening To Beethoven's Ninth: Up the Slough and Out Again

Among the most familiar sounds around during World War II were the first four chords of Beethoven's Fifth Symphony, whose three short and one long deep introductory strains form the Morse code's letter "V"—for Victory. Heralding BBC's newscasts, it told the world daily that the bombs sometimes heard in the background had not yet brought down London and her people. Those notes also happen to be among the first I knew of "serious" music, since the symphony's first movement was on one of the records—the old thick Bakelite 78s—that made up our school's music appreciation course, to which I began to be exposed in maybe the second grade. As a favorite of our music teacher, it was played for us again and again, and it was several years before I knew the symphony had other movements, less familiar but equally glorious. Its indelible association for my generation, though, is with "The War," and more specifically with British tenaciousness. To those people it meant what their poets—and their hearts—had always told them: "There'll always be an England." They have also told all of us that there'll always be a world—until recently.

Our earth's sun is a dying star, and dying stars characteristically go out in a final blaze of glory. When our star goes, it will take its solar system with it. Geologically speaking, that will be soon, but astronomers tell us not to look for it for several million years yet. Our more pressing problem is not the extinction of the sun and its system, but of the world—as distinct from planet Earth—and its

inhabitants. Man is now in the position to hurry up the process immeasurably. It is hard to imagine that with all those diabolical toys lying around, someone will not—even just out of curiosity or whimsy, if not for more serious reasons—eventually try them out.

Theories abound as to what will or might happen on explosion of nuclear devices at varying altitudes and in various places, theories about power blackouts, with disruption of electrical service and electronic equipment, theories, based on volcanic eruptions recent and remote, about perpetual winter—all sorts of theories; yet the only way to really find out what will happen is to explode the devices themselves. I have the uncomfortable feeling that the only deterrent for some individuals is the suspicion that they might only show someone else what will happen, and not satisfy their own curiosity.

No one really *knows* what will happen, except that, based upon what was a relatively minor experiment, considering today's potential, in Hiroshima and Nagasaki in 1946, it is apparent that it will be hell. I recognize that not everyone holds the same view of holy scripture that I do; nevertheless, if you would like a lurid description of the nuclear holocaust, you can find in the eighth and ninth chapters of the Revelation of St. John one that has not been surpassed by even the most imaginative modern writers.

". . . And the Angel . . . filled [the censer] with fire and cast it into the earth . . . and there were peals of thunder, rumblings, flashes of lightning, and an earthquake . . . followed by hail and fire mingled with blood . . . and a third of the earth was burnt up and a third of the trees were burnt up, and all the green grass was burnt up. . . . And something like a great mountain burning with fire was cast into the sea: and a third part of the sea became blood; and a third part of the creatures in the sea that had life died, and a third part of the ships were destroyed. . . . And there fell a great star from heaven . . . and it fell upon a third of the rivers . . . and a third of the waters turned bitter; and many men died because of the waters And a third part of the sun . . . and moon . . . and stars . . . were darkened, and the day shone not for a third part of it and the night likewise. . . . And a star fell from heaven . . . and opened up a bottomless pit, and there arose a smoke out of the pit . . . and the sun and the moon were darkened by the smoke . . . and a third part of men were killed by the fire and by the smoke and by the brimstone. During those days men will seek death and not find it. They will long to die, but death will elude them."

I left a lot out, but it gives you an idea. Pretty good divination for a benighted 90-year-old country preacher on a desert island nearly 2,000 years ago. I'm not trying to sell you anything, understand; but it would make quite a movie, wouldn't it? St. John's night thoughts on listening to the seven trumpets of the Lord were not too different from those of Lewis Thomas on listening to Mahler's Ninth Symphony, as far as they went, but whereas the Biology Watcher stopped his piece in the Slough of Despond, the Apocolypse Watcher pressed on until he saw a new Jerusalem coming down out of heaven, a city where there would be no more crying nor any more tears. It seems your outlook depends upon where your anchor is lodged.

In any case, we have a job to do from which we can't be distracted by such things. We have in fact two jobs—to heal those who are sick and to preserve the health of those who are not. Both take some doing, but of the two, the latter may be the more difficult, considering the perversity of human nature, which persists for example in smoking tobacco regardless of manifest dire consequences, and which persists in building engines of destruction, regardless of manifest dire consequences. On further consideration, though, the former seems the more pressing.

There is a school of thought that holds that since there is no way in which to prepare medically for nuclear war, just entering into any such preparation simply encourages the public to believe there might be a way of escape. Those who adhere to that school therefore eschew any such preparation. The AMA House of Delegates, of which I happen to be a member, went along with that view in its program for cooperation with the military in planning for the handling of battle casualties. It limits cooperation to planning for casualties inflicted in so-called conventional warfare. Ostrichlike, it ignores nuclear war altogether.

Though I agree that the chances of very much of anything surviving a nuclear war are poor indeed, to take such a position is in my view sheer lunacy. I was not much enchanted by the movie *The Day After*, but if it made any point at all, it was that a doctor is a doctor until he dies, and to do what doctors do he needs all the help he can get.

The Slough of Despond is a poor place to get it.

J.B.T.



David Rabin, age 50. Died October 26, 1984. Graduate of the Medical School University of Witwatersrand, Johannesburg. Member of Nashville Academy of Medicine.

new member

The JOURNAL takes this opportunity to welcome these new members to the Tennessee Medical Association.

BRADLEY COUNTY MEDICAL SOCIETY

Daniel Johnson, M.D., Cleveland James P. Stone, M.D., Cleveland

CHATTANOOGA-HAMILTON COUNTY MEDICAL SOCIETY

Richard C. Morrison, M.D., Chattanooga Melissa Lewis Meyer, M.D., Chattanooga Robert Terrell Webb, M.D., Chattanooga

CONSOLIDATED MEDICAL ASSEMBLY OF WEST TENNESSEE

Paul C. Frederick, M.D., Jackson Harvey Harmon, M.D., Jackson

KNOXVILLE ACADEMY OF MEDICINE Roland L. Skinner, III, M.D., Knoxville

SULLIVAN COUNTY MEDICAL SOCIETY John Michael Spear, M.D., Bristol

personal news

Robert C. Reeder, M.D., Memphis, has been elected vice president of the American Society of Plastic and Reconstructive Surgeons.

The following TMA members have been inducted as Fellows of the American College of Physicians: *Michael W. Goodman, M.D.*, Signal Mountain; *Alan L. Smuckler, M.D.*, Maryville.

The following TMA members have been inducted as Fellows of the American Academy of Family Physicians: Samuel L. Broffitt, M.D., Covington; Nicholas H. Edwards, M.D., Grand Junction; Michael T. Hood, M.D., Newport; Joe K. Wallace, Sr., M.D., Crossville.

TMA Members Receive AMA Physician's Recognition Award

Thirteen TMA members qualified for the AMA Physician's Recognition Award during October 1984.

To qualify for the PRA, a minimum of 150 hours of continuing medical education must be earned over a three-year period; 60 of these hours must be Category 1.

This list does not include members who reside in other states. Names of additional PRA recipients will be published as they are received from AMA.

George E. Allen, M.D., Chattanooga Frances H. Barnett, M.D., Whitwell Donald H. Bradley, M.D., Sparta Neil Dressler, M.D., Springfield Manhar C. Gandhi, M.D., McKenzie Henry C. Howerton, M.D., Nashville Nat E. Hyder, Jr., M.D., Johnson City Frank London, M.D., Knoxville James E. McAfee, M.D., Memphis Salwa Moustafa, M.D., Memphis David N. Orth, M.D., Nashville John R. Semmer, M.D., Knoxville

national news

From the AMA's Office in Washington, D.C.

Post-Election Wrapup

President Reagan's landslide victory is unlikely to make a major difference in physicians' professional lives as both the newly elected Congress and the returning administration continue to chip away at costs in an industry that is seen as a key part of any effort to reduce the federal deficit.

Presidential advisers are terming the vote a mandate for continuation of Reagan policies which appears to signal a continuation of efforts to reduce spending for social programs—including Medicare and Medicaid.

Others contested the contention that the President has won a mandate and pointed to the President's failure to convince the voters to give him a "working majority" in the Congress.

The GOP regained only 14 of the 26 seats that it

needed to restore a coalition of Republicans and conservative Democrats that combined to push major Reagan initiatives through Congress before the mid-term election reduced Republican numbers in the House. The Democrats will have a 71 seat majority. In the Senate, Republicans retained control but Democrats picked up two seats, reducing the Republican edge in that body to 53 to 47 in the new 99th Congress.

Thus, while the President can expect a slightly more cooperative House of Representatives, his support in the Senate has been slightly diminished. Although the Democratic to GOP balance on House committees may be minimally altered, the shift is not expected to have a major impact on control of the committee process by Democrats.

Perhaps the major change resulting from the elections is the retirement of Senate Majority Leader Howard Baker and the ascension of Kansas Republican Robert Dole to the leadership post. Dole has a reputation for speaking back to the White House and under his guidance, the Senate could prove more independent than under Baker.

Dole will be relinquishing his key chairmanship of the Finance Committee to Sen. Robert Packwood, a moderate Republican, who has sometimes been regarded as a maverick. He has generally supported and been supported by organized medicine.

As head of the Senate Commerce Committee, however, Packwood did oppose the American Medical Association's effort to eliminate Federal Trade Commission controls over the professions. He is an opponent of taxes on employer-paid health insurance premiums and of restrictions on a woman's right to an abortion.

Most other important transformations in congressional panels with jurisdiction over health legislation also occur as a result of retirements. On the House Ways and Means Committee, two Democrats—James Shannon of Massachusetts and Kent Hance of Texas—are retiring. So are Republicans Barber Conable of New York and Jim Martin of North Carolina. In line to step up to the widely respected Conable's ranking minority spot is John Duncan (R-TN) who has been a friend to health providers but may not have the influence Conable did

On the House Energy and Commerce Committee, three seats are changing. New York Democrat Richard Ottinger and Illinois Republican Tom Corcoran retired. Tennessee Democrat Albert Gore, Jr. will move to the Senate where he won the seat of retiring Senate Majority Leader Howard Baker (R-TN). Gore, who frequently used his post on the Oversight and Investigations subcommittee to conduct hearings into controversial medical issues, played a major role in the passage of an organ transplant bill that was initially opposed by the American Medical Association but was modified in later congressional deliberations.

Other Senate changes of some interest to the health industry include the retirement of West Virginia Democrat Jennings Randolph who served on the Labor and Human Resources Committee and the defeat of Republicans Charles Percy (IL) and Roger Jepson (IL). Randolph had backed the National Health Service Corps, community health centers and other programs to aid his depressed state. Percy had chaired a Governmental Affairs Subcommittee, that occasionally dealt with health

issues. Jepson had headed the joint economic committee which also sometimes took up health matters.

Budget Cuts Planned for Health

Among a host of health-related budget proposals Reagan administration health and budget advisers are pondering for fiscal 1986 is a continuation of a Medicare freeze on physician fees.

All budget discussions at this point are in preliminary stages and White House officials say no mechanics of a freeze have been worked out. It is not even clear, for instance, that the freeze would cover all physicians. Nor have any final decisions been made on which of a laundry list of possible health program cuts will be included in the plan the President will send to Congress in late January or early February. But the President has told his staff that deep cuts will be made in all discretionary programs and a freeze on all government programs except Social Security.

In addition to the physician fee freeze, a variety of other previously offered administration health budget initiatives are expected to be on the platter for next year as well. These include a number of recommendations from the conservative Heritage Foundation, which has close ties to the administration, as well as some that Congress has rejected in the past.

The Heritage Foundation, which has distributed a 1,000-page report to the Reagan cabinet, wants to "modify" Medicare's diagnosis related groups price controls through the addition of provisions intended to enhance market competition.

All were offered in the President's first term but never garnered adequate support in Congress. They include a proposal to improve Medicare coverage for catastrophic illness while increasing cost-sharing for shorter hospital stays, Medicare vouchers, and a tax on employer-provided health benefits above a certain limit.

The tax cap, which has substantial opposition in Congress, would reduce current subsidies estimated to cost the federal government \$17.6 billion in lost revenues. Medical expense write-offs reduce federal income by another \$3.2 billion and charitable contributions to health organizations another \$1.4 billion. All three could be eliminated in a simplified tax plan the Treasury Department is developing.

The cost-sharing portion of the catastrophic illness benefit also faced major difficulties in Congress and the provision budget officers are considering this year reportedly would set up a new premium to cover the cost of the catastrophic coverage. Another possibility is to require private employers to include catastrophic protection in workers' health insurance.

The voucher proposal is also said to be on the budgeteers' list along with increases in the part B premiums and deductibles and major changes in the funding of graduate medical education. The latter could include replacing the current Medicare contribution to the direct cost of medical education with a block grant and discontinuing the indirect cost allowance for all but the largest teaching hospitals.

Medicaid, which was hard hit in earlier rounds of budget cutting, could also be hit again, although Congress may balk at any further cuts in this program. Possibilities include: a 3% reduction in federal Medicaid payments to states where "health costs are excessive when compared to nationally established growth rate targets," changes in the matching payment formula, or an across-the-board reduction in federal payments.

Appropriations, Hospice Home Care Bills Signed

As one of his first post-election duties, President Reagan signed on Nov. 9 a \$79.6-billion appropriation bill for the Department of Health and Human Services and a measure raising Medicare rates for hospice home care.

The appropriations measure which funds HHS programs through Oct. 1, 1985, includes money for the National Institutes of Health and human professions education programs that will continue despite the President's earlier veto of bills reauthorizing these programs. The NIH is to receive \$5.15 billion; nurse and health professions training programs, \$234.5 million.

The hospice bill would restore the home care payment to \$53.17 a day. HHS had initially proposed this rate but reduced it to \$46.25. A veto threat was withdrawn in the face of the considerable public and bipartisan congressional support for the hospice movement.

PRO Contracts Complete, Feds Bid Out Super PRO

With just six days to spare before a congressional deadline for implementation of the fledgling peer review organizations (PROs), Health Care Financing Administration officials on Nov. 9 signed the last three PRO contracts.

The officials now are awaiting bids for another contract—dubbed the Super PRO—to evaluate and monitor the PROs.

Also still to come are four sets of PRO regulations that have not yet been issued in final form.

As had been predicted, Idaho will be the only state in which the review authority has been delegated to a Medicare intermediary. There, the Idaho Blue Cross plan will be paid its cost for the PRO reviews of hospitalized Medicare patients' care. A \$1.3-million spending limit has been placed on the contract, however.

HCFA negotiators had initiated talks with the Hawaiian intermediary, Blue Shield of Hawaii, after a plan to have the California PRO assume review in Hawaii and the Pacific Islands fell through. Negotiations with the Arizona PRO proved more successful, however, and that contractor was also awarded the \$1.28-million Hawaiian contract and the \$227,000 contract for Guam and Samoa.

The Arizona PRO (the Phoenix-based Arizona Health Services Advisory Group) is one of only two forprofit groups that won PRO contracts. The other is the Pennsylvania Peer Review Organization in Camp Hill.

Meanwhile, federal officials are gearing up to keep a watchful eye on the PROs. The new review organizations have considerably more authority than their predecessor Professional Standards Review Organizations, and HCFA staff is concerned that the PROs apply their power with sensitivity. There have been a few early reports of impolitic actions and letters among some PROs that have probably unnecessarily angered hospitals and physicians in their area.

The federal PRO management team will also be keeping tabs on progress PROs make toward meeting the stiff new admission-reduction and quality-enhancing goals the winning organizations set for themselves. Staff from HHS Inspector General's Office also will be looking at the PROs as part of their overall task of monitoring Medicare's prospective pricing system. Super PRO will play a critical role in the monitoring process.

Bids on the Super PRO contract were due by Nov. 30 and several organizations, including the American Medical Association, were bidding.

The winner will be scrutinizing the PRO medical review decisions to assure that they are "consistent" and "appropriate" and that they are made by "appropriate staff or representatives."

In addition to selection of the Super PRO, the new peer review groups are still awaiting publication of four sets of final PRO regulations, including a controversial proposal governing confidentiality of data collected by the PROs. Proposed confidentiality regulations that made public data on identifiable individual hospitals were criticized by hospitals and physicians as too loose. Representatives of business, labor and the elderly want to eliminate the proposal rules' protection of individually identifiable physician data.

Other regulations still to come will govern the conduct of review, sanctions, and appeals.

A recent regulatory agenda published in the *Federal Register* anticipates publication of a final regulation by the end of December. Another set of regulations governing conditions under which Medicare will pay for certain services later found to have been unnecessary is still being drafted.

Wennberg Method Proposed To Reduce Variations

A greatly expanded federal investment to reduce variations in medical practice from community to community might save Medicare up to \$16 billion a year and reduce surgical death rates in the process, says a physician epidemiologist who has studied such variations for ten years.

Dartmouth professor John Wennberg, M.D., wants Medicare and Medicaid to follow industry's example of setting aside a specific percentage of expenditures for research. He has suggested that about 0.5% of the Medicare trust fund outlays be devoted to this purpose. At estimated 1984 spending levels this would amount to nearly \$300 billion if all spending were included.

The research Dr. Wennberg has in mind would monitor and compare surgical and hospital admission rates community by community. It would also compare the outcomes of alternative treatments for some conditions

where physicians don't agree on the best approach.

In addition, the Dartmouth medical school professor thinks federal funding to medical schools should be contingent on the schools' teaching statistical and epidemiological techniques that would help physicians choose between treatments.

His premise is that with documentation of the variations and better outcome studies, physicians will voluntarily reduce the variations. Since he has found low utilization rates among some teaching hospitals, he believes uses rates—and therefore costs—can be lowered without harming quality. In many cases, he suggests, care would simply be shifted from hospitals to physicians' offices so physicians' incomes would not be greatly affected by the change.

One indication of the growing attention Wennberg's methodology is attracting came at a Nov. 19 hearing of the Senate Appropriations Subcommittee on Health and Human Services. Hearing Chairman Sen. William Proxmire (D-WI) said he sees the Wennberg approach as a possible way to avoid cuts in Medicare benefits. A variety of witnesses, including the American Medicare Peer Review Association, the Washington Business Group on Health, and the American Medical Association supported Wennberg's approach but had different interpretations of it.

AMA representative James E. Davis, M.D., speaker of the Association's House of Delegates, emphasized that medical societies have participated in some of Dr. Wennberg's studies and saw as one of its virtues the emphasis on "voluntary practice modification rather than intrusive governmental intervention."

The Durham, North Carolina surgeon added, that while the AMA does believe that "wide variations" in care "should be examined closely," they may be "an indicator" of the "failure to provide care" as well as a signal that inappropriate care has been provided.

AMPRA Vice President Thomas Dehn, M.D., whose organization represents physician-directed peer review groups, including some of the new PROs, said Dr. Wennberg's work points to the need to extend PRO reviews into outpatient settings.

Washington Business Group on Health executive Willis Goldbeck saw the Dartmouth researchers' findings as evidence that business needs more data on hospitals and physicians, and that Congress should require a relicensure system for physicians. Although Goldbeck also implied that some practice variations stem from usual, customary and reasonable payments, Wennberg himself has said that the variations are a "worldwide phenomenon not explained by incentives associated with fee for service medicine."

Health Care Financing Administration staff, who are clearly uneasy with the prospect of a Medicare set-aside for research, maintained that the recent advent of a Medicare prospective payment system and peer review organizations (PROs) are already encouraging physicians to rethink their practice patterns. Nevertheless, HCFA official Henry Desmarais, M.D., announced the agency is "considering" Dr. Wennberg's method as "one of several approached within the new PRO program to further refine the identification of variations in physician patterns." Some PRO officials have reported that HCFA is negotiating a demonstration of a Wennberg computer program by the Iowa PRO.

Court Orders Nursing Home Inspection Guidelines

A federal court in Denver has ordered the Department of Health and Human Services to rewrite guidelines for inspecting the nation's 18,000 nursing homes to emphasize actual care of patients rather than the structure of the home.

The ruling by the U.S. Court of Appeals comes as a prestigious national committee is holding a series of public hearings on nursing home standards and regulations and as both states and the federal government are beginning to look for better ways of monitoring the care nursing home patients receive. Federal officials said they haven't yet assessed the potential impact of the Colorado suit and haven't decided whether or not to appeal the decision.

The suit was based on the argument that by concentrating on structural issues, federal Medicare and Medicaid standards concentrate only on the homes' potential to provide care rather than the quality of care

actually provided.

Although a lower court ruled that enforcement of nursing home standards is a state responsibility, the appeals court found that HHS was not meeting a statutory obligation to assure that nursing home patients receive quality care and instructed the lower court to "compel" the department to meet its obligations in this area.

The issue raised in the Colorado decision involves a long argument over the types of standards nursing homes participating in Medicare and Medicaid should be required to meet and how they should be monitored.

It was put on hold when Congress directed HHS to hold off on any changes in the enforcement procedures for a short time and then won a "gentleman's agreement" with the department that changes in the conditions of participation and inspection process would be delayed pending the recommendations of a national commission.

The commission, which was formed through the National Institutes of Medicine, is now conducting public hearings and expects to issue its final recommendations in July, 1985. Congress in the interim also increased the funds for inspection which rose to \$73.6 million in 1983 and were at \$72.5 million in 1984.

Meanwhile several states have initiated new inspection and survey methods aimed at looking less at facilities' physician structure and more at the end result in terms of quality of care and the degree to which the patients' other needs are met as well. The Health Care Financing Administration is involved in five of the state efforts and is also experimenting with a new national survey instrument. Both the nursing home industry and patients rights groups support a move to an outcome oriented approach.

Another Blow to Depo-Provera

Citing inadequate research, a Food and Drug Administration advisory panel has recommended that the injectible contraceptive Depo-Provera not be approved for sale in the United States.

The panel of three university scientists said that data linking the long-term use of the drug to cancer in animals should not be ignored. Depo-Provera was found to produce breast cancer in beagles over a seven-year period and endometrial cancer in monkeys over a tenyear period.

The panel's recommendation, endorsed by other FDA scientists, now goes to FDA Commissioner Frank E. Young, M.D., for a final decision. If Dr. Young agrees with the panel's conclusion, as expected, manufacturer Upjohn Company may go to court to have the FDA action overturned.

Depo-Provera, approved in 80 foreign countries, has been used by 11 million women around the world. If approved in the United States, an estimated 4 million women may have shifted over from other contraceptives. Additionally, the drug could have been used in overseas population programs sponsored by the U.S. Agency for International Development.

The drug is effective for over three months and requires less patient motivation than the pill or barrier contraceptives. It is injected into the muscle of the upper arm or buttock and released slowly into the bloodstream from the injection site. It can be administered by any person who normally gives injections.

It prevents ovulation by suppressing hormone production by the hypothalamus and pituitary. Secondary effects, such as changing the cervical mucus, the uterine lining, and the fallopian tubes, also reduce fertility.

Its use is endorsed by a wide variety of health and population groups, such as the World Health Organization, the American College of Obstetrics and Gynecology, the International Planned Parenthood Federation, and the Population Crisis Committee.

Opponents include FDA staff scientists, individual scientists from the National Cancer Institute, the Centers for Disease Control, and consumer advocacy groups such as the National Women's Health Network and the Health Research Group.

President Challenges New Council on Health Care Technology

In a tersely worded message to Congress, President Reagan this month warned that he would not request funding for the new Council on Health Care Technology, a quasi-private clearinghouse for technology assessment.

Although Reagan signed S-771, which authorized the Council, he noted "strong objection" to the constitutionality of the group.

The Council would be composed of members chosen by the federal Department of Health and Human Services and the private National Academy of Sciences, including federal officials, members of the general public, and representatives of the fields of medicine, law, ethics, economics, and management.

JANUARY, 1985

Reagan contended that the Council would mix governmental and nongovernmental, executive and legislative elements "in a manner which is inconsistent both with the Constitution and with sound government practices," he said. Because the Council would perform government duties, it is unconstitutional for its members to be selected by a nongovernmental agency, he noted.

The President asked Congress to go back to the drawing board, revamping the structure and function of the Council. Until such remedial legislation, he will refuse to ask for funding for the Council in his January budget.

FDA Considers Banning Sale Of Raw Milk

The Food and Drug Administration is considering a regulation that would ban the sale of raw milk, in hopes of reducing cases of bacteria-linked poisoning.

Advocates of raw milk contend that pasteurization reduces levels of thiamin, vitamins B_{12} and C, calcium, protein, and fat. Raw milk has been claimed to contain beneficial enzymes, hormones, and anti-stiffness agents for treatment of arthritis.

Many recent outbreaks of salmonellosis, however, prompted government officials to take a closer look at raw milk. Milk is an ideal growth medium for Salmonella, they discovered, causing severe diarrhea, abdominal cramps, and sometimes death. California health authorities have calculated that the risk of Salmonella dublin infection is 84 times higher in persons who consume raw milk than in persons who consume pasteurized milk.

Moreover, pasteurization causes no major loss of nutrients, FDA researchers found. There is no evidence that raw milk enhances resistance to disease, improves fertility, or reduces stiffness, they say. The so-called beneficial enzymes inactivated by pasteurization are also inactivated by gastric acidity and hormones are unaffected by the pasteurization process, they note.

FDA's proposal was applauded by the American Medical Association, which believes that all milk sold for human consumption should be pasteurized. "There is convincing scientific evidence that raw milk poses a significant public health risk," said AMA Executive Vice President James H. Sammons, M.D. "Pasteurization kills the bacteria that transmit disease to humans."

New NIH Guidelines

A new report from the Institutes of Medicine warns against further expansion of the National Institutes of Health, but urges NIH to become more aggressive in its response to public health needs.

If NIH does a better job at responding to health emergencies, perhaps Congress will ease up on efforts to create new institutes, the IOM report suggests.

The report was prepared by a 15-member IOM committee over the past 18 months, in response to a request by the Department of Health and Human Services to study the organizational structure of NIH. The committee received written comments from 145 organizations and individuals and interviewed 185 people, including members of NIH, HHS, Congress, and the scientific and medical communities.

Part of the report received a warm reception: virtually everyone agrees that the NIH director deserves more freedom to respond to sudden research needs. Proposals which give the NIH director access to a discretionary fund and the authority to transfer some funds across NIH institute lines were endorsed by both the research and congressional community.

There is dispute, however, over the report's criteria for establishing new institutes. Since 1970, there have been 23 separate proposals for new institutes. Researchers say that the once-unified mission of NIH has become fractured and splintered as disease groups lobby for special attention.

The most recent push for NIH reorganization, which would have authorized a new arthritis institute and nursing institute, was vetoed by President Reagan in November.

Cancer Rates Improving

Survival rates for cancer victims are showing a slow but gradual improvement, climbing from 48% for patients diagnosed from 1973-1975 to 49% for patients diagnosed from 1976-1981, according to new National Cancer Institute statistics.

Most noteworthy are gains in survival of cancers of the lung (12% to 13%), colon (49% to 52%), and prostate (64% to 70%).

Overall there were gains against rare diseases such as testicular cancer, Hodgkin's disease, melanoma, and the vast array of childhood cancers and leukemias, but little progress in the more common cancers of the breast and endometrium.

Cancers with the highest five-year survival rates are: thyroid cancer, 93%; testis cancer, 86%; endometrium cancer, 85%; melanoma, 80%; female breast cancer, 74%; bladder cancer, 73%; Hodgkin's disease, 73%; and uterine and larynx cancers, 67%. Cancers with the lowest survival rates are pancreas cancer, 2%; esophagus cancer, 5%, and stomach cancer, 16%.

In some cases, NCI says increased survival rates are due to improved drug therapy; in others the turnaround is due to better recognition of early lesions by patients.

FDA Offers Help to Halt Fraudulent Medical Ads

The Food and Drug Administration and the Council of Better Business Bureaus have asked the nation's radio and TV stations to review medical claims carefully before accepting them in advertisements.

To help, FDA and the Council are mailing 10,000 sales managers information about how to recognize medical product frauds. The mailing suggests careful checking of proposed ads that depend on sensational or foreign testimonials, state or imply that established medicine is covering up a "breakthrough," or have vaguely worded "money-back" guarantees.

If TV and radio sales managers have questions about a claim or company, the Council and FDA are ready to help. A similar mailing was sent to newspapers and

magazines in May.

Among bogus products as frauds are "miracle" weight reducers, herbs and health foods sold with disease claims, body wraps, sex aids, arthritis and cancer "cures," simplistic tests for diet deficiencies and allergies, anti-aging products, sobriety aids, and multi-purpose elixirs and treatments.

Medical PACs Came of Age In 1984 Elections

Behind the scenes in recent elections, political action committees (PACs) quietly have come of age. Strong and savvy, they have established themselves as major fixtures on Washington's political scene.

Nowhere is this more evident than in health PACs. AMA's PAC (AMPAC), once the only major contributor to health-oriented candidates, has been joined by more than 100 smaller, more specialized contributors.

AMPAC boosted spending 60% during this election cycle, from \$2.4 million in 1981 to an estimated \$3.5 million in 1984. Abbott Laboratories increased contributions 28%; Eli Lilly increased contributions 22%. Hospital chains, medical device companies, medical specialty societies, and nonphysician professionals all report healthy spending levels.

Candidates who once spurned a PAC's advances this year turned to them for help. PAC spokesmen say they received unprecedented numbers of invitations to campaign cocktail parties and dinner fundraisers.

Even some staunch opponents of PACs have adopted a "if you can't beat 'em, join 'em" philosophy and contributed to politicians who best represent their interests.

Some of the changes noted in fundraising this past election cycle:

- Earlier spending—larger "war chests" of contributions are carried from election to election, saved for future use. Supporters of this accelerated spending say that "early money" makes candidates less vulnerable to the debts incurred by their re-election campaign.
- Increased pressure—as the cost of running for office climbs, candidates must look for new ways to make ends meet. "Reverse lobbying," in which candidates solicit PACs, is now the trend. Some large PACs ask challengers to fill out questionnaires, complete "position papers" and discuss issues. Even small PACs say they receive daily invitations to fundraising parties.
- More risk taking—as PACs become more adept at identifying qualified challengers, they have shifted away from the play-it-safe approach of backing only

incumbents and are making a greater effort to locate those challengers who support their interests.

- Restricted spending—increasingly, PACs look for ways to exert the greatest influence on the handful of congressional candidates they most want in office. FEC's limits on PAC spending can be sidestepped by "independent expenditures"; as long as a PAC has no contact with a candidate or his campaign, there is no ceiling on the amount it spends. Spending was very high in this area in 1984.
- Greater specialization—not long ago, AMPAC was the only medical PAC in town. Now, there are PACs for pathologists, psychiatrists, emergency physicians, and oral and maxillofacial surgeons. Black physicians are represented by the National Medical Association PAC; public health physicians, Public Health PAC; and anti-war physicians, Medical Associates for Peace PAC. Nonphysician health PACs are also active; in the 1983-1984 election cycle, dentists spent roughly \$679,680; chiropractors, \$213,814; nurses, \$185,662; optometrists, \$177,974; podiatrists, \$134,954 and so on.
- Changed expectations—gone are the days when a voting record could pinpoint candidates who were for or against medicine. The battle lines are often blurred. PACs now look for legislators who share philosophical leanings, or who are particularly knowledgable about a certain area of health.

Fauci to Head NIAID

Anthony S. Fauci, M.D., an internationally renowned expert on the immune system and AIDS research, has been appointed director of the National Institute of Allergy and Infectious Diseases.

Dr. Fauci, 43, has been chief of NIAID's Laboratory of Immunoregulation since 1980 and deputy clinical director of the Institute since 1977. Former NIAID director Richard M. Krause, M.D., left last summer to become dean of the school of medicine at Emory University in Atlanta.

Dr. Fauci received his MD degree from Cornell University Medical College, served his internship and residency at the New York Hospital-Cornell Medical Center, and joined NIAID as senior investigator in the laboratory of clinical investigation in 1972.

Mittemeyer Resignation

Army Surgeon General Bernhard Mittemeyer, M.D., will leave his position in early 1985 to become vice president and medical director of a Los Angelesbased medical management firm, the Whittaker Corporation.

Dr. Mittemeyer, a Board-certified urologist, took over as Army Surgeon General three years ago. Prior to his appointment, he was commanding general of Walter Reed Army Medical Center in Washington, D.C.

Dr. Mittemeyer serves in the American Medical

Association House of Delegates and on the Board of Regents of the Uniformed Services University of Health Sciences in Bethesda, Md.

New National Institute of Mental Health Director

Chervert H. Frazier, M.D., will assume the post of new director of the National Institutes of Health before the end of the year.

Dr. Frazier joins NIMH from Harvard Medical School where he was professor of psychiatry, and from McLean Hospital in Belmont, Mass., where he was psychiatrist-in-chief since 1972.

Prior to his service in Massachusetts, Dr. Frazier was professor and chairman of the Department of Psychiatry, Baylor University College of Medicine, consultant psychiatrist at Rice University, and former commissioner of Mental Health and Mental Retardation for the State of Texas.

announcements

CALENDAR OF MEETINGS

NATIONAL

	ists—Sheraton Bal Harbour, Bal Harbour,
	Fla.
Feb. 2-6	American College of Allergists—Sheraton
	Bal Harbour, Bal Harbour, Fla.
Feb. 6-9	Society of University Surgeons—Sheraton,
	Boston
Feb. 7-9	American Association for the Study of
	Headache—Camelback Inn, Scottsdale, Ariz.
Feb. 20-24	American College of Nuclear Physicians—
	Four Seasons San Antonio Tev

American Association of Certified Allerg-

Feb. 27-	American Association of Orthopaedic Med
March 3	icine—La Posada, Scottsdale, Ariz.

March 1-2 Outpatient Ophthalmic Surgery Society— Lowe's Anatole Hotel, Dallas

March 3-8 American Society for Microbiology—Convention Center, Las Vegas

March 7-10 American Society of Regional Anesthesia— Hyatt Capitol Hill, Washington, D.C.

March 9-13 International Anesthesia Research Society Congress—Adam's Mark Hotel, Houston

March 10-14 American College of Cardiology—Anaheim, Calif.

March 10-15
6th Annual Mammoth Mountain Emergency Medicine Ski Conference (sponsored by Medical Conferences, Inc.)—Mammoth Lakes, Calif.

March 11-15 International Academy of Pathology, U.S.-Canadian Div.—Sheraton Centre, Toronto

March 11-16 Society of Toxicology—Town and Country,
San Diego

March 16-23 American Society of Contemporary Medicine and Surgery—Sheraton Twin Towers Hotel, Orlando, Fla.

March 16-23 American Society of Contemporary Ophthalmology—Sheraton Twin Towers Hotel, Orlando, Fla.

March 17-20 Society of Air Force Physicians—Stouffer's Hotel, Dayton, Ohio

March 17-20 Southeastern Surgical Congress—Washington Hilton, Washington, D.C.

March 20-24 American Medical Student Association—

March 20-24 American Medical Student Association—Palmer House, Chicago

March 24-27 American Society of Abdominal Surgeons— Tampa, Fla.

March 26-30 Association of American Physicians and

March 26-30 Association of American Physicians and Surgeons—Fairmont, San Francisco

March 27-30 American Burn Association—Hyatt Regen-

cy, Orlando, Fla.

March 28-30 American Society for Clinical Pharmacology

and Therapeutics—Hilton Palacio del Rio, San Antonio, Tex. March 28-31 American College of Physicians—Washing-

ton, D.C.

March 28-31 American Psychosomatic Society—Capitol

Hilton, Washington, D.C.

March 29-31 American College of Preventive Medicine— Atlanta

TENNESSEE MEDICAL ASSOCIATION

150TH ANNUAL MEETING

April 10-13, 1985

Hyatt Regency Hotel, Memphis, Tennessee

Feb. 1



FEBRUARY, 1985 VOL. 78, NO. 2

The Nashville Experience With Scalene Node Biopsy— A Procedure of Limited Application

ROBERT W. IKARD, M.D.

Scalene node biopsy was first reported by Daniels in 1949. As with any new procedure, time and experience were required to define its best applications, and its scope was generally understood by the late 1960s. Scalene node biopsy has been used mainly in the evaluation of lung carcinoma and for the diagnosis of sarcoidosis. In the last 15 years, other better diagnostic techniques have caused it to be used less.

I undertook a study of scalene node biopsy in Nashville, assessing the local evolution of its indications and the quality of clinical results.

Methods

Cases of scalene node biopsy done through 1982 in four Nashville hospitals were retrieved. The hospitals were Vanderbilt, St. Thomas, Baptist, and Park View. The patient population was of broad spectrum, coming from teaching, religion-affiliated, and proprietary hospitals. Only those cases adhering to the anatomic criteria of scalene node biopsy were studied. Specimens had to be removed from the space behind the ster-

nomastoid muscle bounded by the jugular vein medially, the omohyoid muscle laterally, the subclavian vein inferiorly, and the anterior scalene muscle posteriorly. Even if the operation were entitled something else (supraclavicular node biopsy, fat-pad biopsy, etc.), it was tabulated if tissue was removed from this prescribed area

Various case features were studied, including diagnostic rate, screening value for lung cancer operability, correlation with node palpability, sex ratio, and complications. Because nondiagnostic nodes sometimes provide useful information, these were combined with diagnostic nodes to establish a category of clinical "helpfulness." Possible change in procedure application over the study period was examined. Results were compared to those reported, and an attempt made to identify current best usage.

Results

There were 452 cases; the earliest was done at Baptist Hospital in 1957. The majority of patients (299) were male. Patient age ranged from 5-85 years, with a mean of 53.4 and a median of 58. Of the 452 cases, 265 had right scalene node biopsies, 180 left, and seven bilateral. Nodes were

FEBRUARY, 1985 73

Reprint requests to 300 25th Ave. North, Suite B-2, Nashville, TN 37203 (Dr. Ikard).

SCALENE NODE BIOPSY/Ikard

described as palpable in 250 cases and nonpalpable in 202.

In 240 cases (53.1%), diagnosis was established by biopsy. Most of these were lung carcinoma, lymphoma, or sarcoidosis. Fifty-one other tumors and inflammatory processes were also diagnosed (Table 1). The nine "other malignancies" include one each of plasmacytoma, carcinoid, melanoma, and carcinomas of urinary bladder, endometrial, thyroid, pancreatic, germ cell, and uterine cervical origin.

There were 196 cases of lung carcinoma, 114 of them diagnosed by scalene node biopsy. The diagnostic rate in palpable nodes was 94.5% (104/110), but in nonpalpable nodes, it was 11.6% (10/86). Twenty-two patients had unresectable cancer even though their scalene node biopsy showed no metastatic disease.

Forty-three patients were assigned a definite diagnosis of sarcoidosis; 92.3% (12/13) of palpable nodes and 70% (21/30) of nonpalpable nodes were diagnostic, with a cumulative diagnostic rate of 76.5%.

Biopsy of 51 nonpalpable nodes was clinically helpful; 21 showed noncaseating granulomata considered diagnostic of sarcoidosis. Other diagnoses in this group included ten lung carcinomas, two breast carcinomas, and one case of tuberculosis. Sixteen patients had non-involved nodes and subsequently resectable lung malignancies. The absence of recurrent neck malignancy was considered helpful in another patient.

Clinical yield correlated closely with node palpability; 82.8% (213/250) of the palpable nodes

TABLE 1

DIAGNOSES MADE BY SCALENE NODE BIOPSY
IN FOUR NASHVILLE HOSPITALS

Lung carcinoma	114
Lymphoma	42
Sarcoidosis	33
Breast carcinoma	16
Carcinoma, origin unknown	11
Granuloma	5
Ovarian carcinoma	4
Prostate carcinoma	3
Esophageal carcinoma	2
Suppurative lymphadenitis	1
Other malignancies	9
TOTAL	240

provided a diagnosis. In contrast, only one quarter (51/202) of nonpalpable nodes were "helpful." Overall benefit was obtained from 258 biopsies, a helpfulness ratio of 57.1% (Table 2).

There was no mortality due to scalene node biopsy. Six complications were noted, two of transient lymph drainage, one respiratory arrest, one postoperative wound bleeding with shock, one wound infection, and one pneumonitis.

Discussion

Daniel's report described five cases diagnosed by scalene node biopsy—one of silicosis, two of sarcoidosis, and two of lung carcinomas (one done after thoracotomy). The last two diagnoses were predictive of the main indications for scalene node biopsy. The theoretical basis for the procedure in the diagnosis of thoracic disease was that these inferior deep cervical nodes drain the tracheobronchial lymphatics. Its utility seemed sound, and the operative technique became widely used, most frequently to "stage" lung carcinoma. Scalene nodes are not regional nodes of the thoracic viscera, and their involvement by tumor represents distant metastasis.

A dilemma in assessing possible lung carcinoma with scalene node biopsy was whether nonpalpable nodes should be sampled. In a series of over 2,000 reported biopsies of nonpalpable nodes, Brantigan et al³ concluded a "positive yield" of 20% could be expected. They believed bilateral biopsy was indicated if the ipsilateral nodes showed no relevant change. Schatzlein et al4 did not share this conclusion, having only an 8.9% yield in a series of 101 consecutive cases. The 11.6% lung cancer diagnostic rate from nonpalpable nodes in the Nashville experience is very similar to that of other big series.⁵⁻⁷ Most believe that biopsy of nonpalpable nodes is usually improper. "The yield of positive information in the absence of palpable nodes is

TABLE 2

SCALENE NODE BIOPSY EFFICACY
IN FOUR NASHVILLE HOSPITALS

	Diagnostic Rate	Helpfulness Rate
Palpable nodes Nonpalpable nodes	82.8% (207/250) 16.8% (34/202)	82.8% (207/250) 25.2% (51/202)
TOTAL	53.5% (241/452)	57.1% (258/452)

despairingly meager."7

There is no question that the biopsy of palpable nodes in lung carcinoma patients is very productive. Brantigan's literature review showed an 83% positive rate,³ the Nashville series almost 95%. A higher yield can also be expected with large, centrally located malignancies and with poorly differentiated carcinomas or adenocarcinomas.^{3,8}

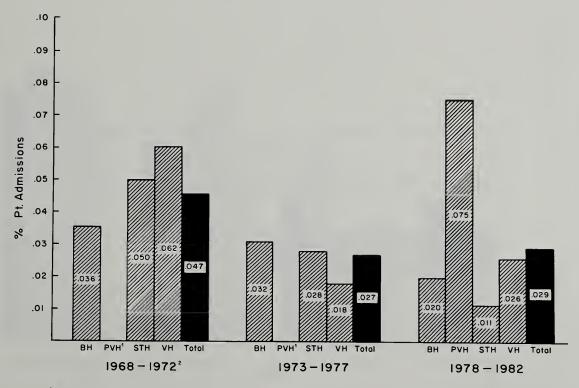
The premise that non-involvement of scalene nodes with lung malignancy is a reliable indicator of resectability has proven very tenuous. Twenty-eight such patients reported by Conn et al⁹ had widespread distant metastases; 22 patients in this Nashville series were unresectable despite demonstrated lack of metastasis to scalene nodes. Similarly, normal scalene nodes are uncertain predictors of curability; of 16 patients who had pulmonary resection after scalene node screening, nine were potentially curable. All the others had significant metastases to mediastinal nodes or distant viscera demonstrated at the operation or within weeks thereafter. The advent of scalene node biopsy was real progress in the effort

to make the surgical therapy of lung carcinoma more efficient and less morbid. Today, however, reliance on biopsy of nonpalpable nodes as a primary staging effort would be inefficient and unsophisticated.

Sarcoidosis provides an exception to the dictum that there can be no significant help in excising nonpalpable nodes. Most reported series have a diagnostic yield of more than 80%, whether or not the nodes were palpable.^{6,10} The Nashville experience was similar, diagnosis being made with 76.5% of biopsies. Almost half of these were nonpalpable.

Mediastinoscopy, however, is even more reliable in diagnosing sarcoidosis. In a review of 543 patients, Ashbaugh¹¹ reported a 98% mediastinoscopy diagnostic rate for sarcoidosis. If the surgeon is comfortable with both procedures, mediastinoscopy will be the more efficient alternative when sarcoidosis is the clinical consideration.

Scalene node sampling has been recommended in the assessment of other diseases, including tuberculosis¹² and malignancies of the stomach,



¹ PVH data unavailable

Figure 1. Incidence of scalene node biopsies in four Nashville hospitals.

FEBRUARY, 1985 75

² Adequate admissions data unavailable before this period

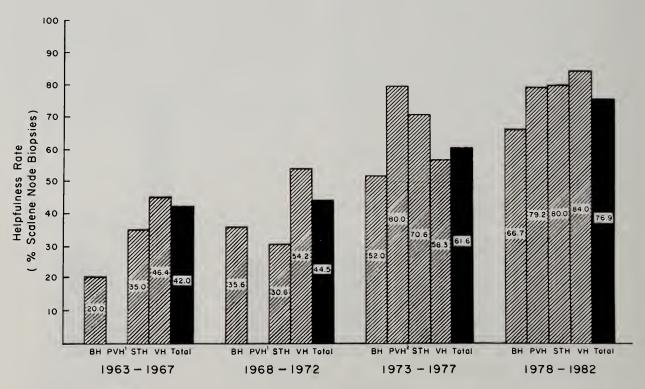
SCALENE NODE BIOPSY/Ikard

breast,⁷ prostate,^{13,14} and uterine cervix.¹⁵ Again though, there has been reliable diagnostic help only through palpable nodes. In 94.1% (48/51) of such patients in this series, diagnosis was made from palpable nodes.

Some early reports on scalene node biopsy suggested that the operation is dangerous.8,16 In 1963, Skinner⁸ reported a large series with an overall morbidity of 9.1% and a mortality of 1.1%. Subsequent experience has shown the risk is not nearly so great. In Brantigan's comprehensive review, 0% to 2% "minor problems" were noted. Eight deaths were found in this study of over 10,000 biopsies. The most common complications are wound infection, bleeding, and lymph drainage. More threatening are air embolus,^{7,9,16} chylothorax, pneumothorax, neurologic³ and vascular¹⁶ injuries. The recorded complication rate of 1.3% of biopsies in this series is reflective of the low risk. Skinner asserted that scalene node biopsy should not be done unless the "anticipated yield" exceeded possible risk.8 Comparing the two arms of this equation is always necessary. However, the current risk is so low that when the operation is properly selected and done by a skilled surgeon, there will be no great incidence of complications.

The rate of scalene node biopsy in Nashville has continued to decline for the last decade (Fig. 1). The depicted decrease in utilization would have been more apparent were it not for the Park View experience. When that is eliminated, the scalene node admission rate for the other three hospitals for 1978-1982 was .019%. The relatively high percentage at Park View is probably attributable to the hospital's active oncology service.

The limitations of the procedure have been well learned. It is not being used in the routine screening of lung cancer. Outside of the occasional sarcoidosis case, nonpalpable nodes are rarely sampled. In the last five years of the study period, 94 of 121 nodes biopsied were palpable, and seven of the nonpalpable nodes were diagnostic of sarcoidosis. Other techniques to obtain diagnostic material, including percutaneous and



¹ PVH data unavailable

Figure 2. Helpfulness rate of scalene node blopsies in four Nashville hospitals.

² PVH data available 1976 - 77 anly

transbronchial biopsy, mediastinoscopy, and mediastinotomy have obviated many previous applications.

The operation is considered so much less often that its name is seldom used. One of the difficulties in compiling this series was identifying cases based on anatomic characteristics, regardless what the operation was entitled. Physicians now rarely consider scalene node biopsy as a prime technique in thoracic disease diagnosis. They are then more likely to describe biopsy of a "supraclavicular" or "cervical" node when it clearly comes from the prescalene space. This loss of terminology seems to correspond with the procedure's decreased usage.

Though scalene node biopsy is being used less. its efficiency in Nashville has steadily increased. A graphic demonstration of its helpfulness shows this better application (Fig. 2). Over a 20-year span, the total helpfulness (clinical usefulness) almost doubled.

Conclusion

The application of scalene node biopsy in Nashville evolved in a predictable and intelligent manner, similar to the pattern seen in reports from other medical centers. After some early inefficient use, it is now usually employed only for palpable nodes or in the diagnosis of sarcoidosis. Aside from better understood indications, new surgical and radiographic capabilities have decreased its applicability. The introduction, refinement, and diminution of this technique in Nashville took place within two decades.

REFERENCES

- 1. Daniels AC: A method of biopsy useful in diagnosing certain intrathoracic diseases. *Dis Chest* 16:360-367, 1949.
- 2. Ashbaugh DG: Scalene lymph node biopsy. Surg Clin NA 49:1385-1389,
- 3. Brantigan JW, Brantigan CO, Brantigan OC: Biopsy of nonpalpable scalene lymph nodes in carcinoma of the lung. Am Rev Respir Dis 107:962-974,
- 4. Schatzlein MH, McAuliffe S, Orringer MB, et al: Scalene node biopsy in pulmonary carcinoma: when is it indicated? Ann Thorac Surg 31:322-324, 1980.
- Morgan SW, Scott SM: A critical reappraisal of scalene fat pad biopsies.
 J Thorac Cardiovasc Surg 43:548-551, 1962.
- Palumbo LT, Sharpe WS: Scalene node biopsy, correlation with other diagnostic procedures in 550 cases. Arch Surg 98:90-93, 1969.
- 7. Lawton RL, Brintnall ES: Prescalene node biopsy. Arch Surg 100:68-70,
- 8. Skinner DB: Scalene lymph node biopsy, reappraisal of risks and indica-
- tions. N Engl J Med 268:1324-1329, 1963.

 9. Conn HJ, Fain WR, Chavez CM, et al: A critical evaluation of scalene
- lymphadenectomy in 500 patients. Am Surg 35:125-129, 1969.

 10. Skarstein A, Andersland J, Janssen CW Jr: The prescalene lymph node biopsy: a study of 386 biopsies with special reference to the indications. Scand J Respir Dis 51:301-304, 1970.
 - 11. Ashbaugh D: Mediastinoscopy. Arch Surg 100:568-573, 1970.
- 12. Khanna BK, Mukerji PK, Sen RK: Diagnostic value of scalene node biopsy in pulmonary tuberculosis. Br J Dis Chest 62:211-214, 1968.
- 13. Arduino LJ: Scalene node excision—biopsy in stages 3 and 4 carcinoma of prostate. J Urol 103:458-461, 1970.
- Nussbaum M: Carcinoma of prostatic origin metastatic to cervical lymph nodes. NY State J Med 73:2050-2054, 1973.
- 15. Buchsbaum HJ, Lifshitz S: The role of scalene lymph node biopsy in advanced carcinoma of the cervix uteri. Surg Gynecol Obstet 143:246-248, 1976.

 16. Berger RL, Boyd TF, Strieder JW: Complications of scalene lymph node
- biopsy. J Thorac Cardiovasc Surg 45:307-311, 1963.

APRIL 1985						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	1	2	3	4	5	6
7	8	9	10 TM/ Hya	11 A 150TH AN It Regency I	12 12 INUAL MEE Hotel — Mer	13 TING nphis
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	NOTES			

The Development of Clinical Neurology in Tennessee

FRANK R. FREEMON, M.D.

Over the past 10 to 15 years the number of clinical neurologists practicing in Tennessee has risen markedly. Whereas the most recent edition of the Directory of Medical Specialists lists 37 neurologists in Tennessee, just 13 years ago this same directory listed only eight physicians who restricted their medical practice to clinical neurology. This massive increase in neurologic specialists has stimulated me to evaluate the beginnings of clinical neurology in Tennessee.

Most of the early neurologic specialists in the United States became interested in the nervous system through their experiences with nerve and head injuries in the American Civil War. The cofounders of American neurology were Silas Weir Mitchell, whose study of phantom limb and causalgia is still useful, and William A. Hammond, Surgeon General of the Union Army during the conflict. Hammond became the leading neurologist in New York, and in 1875 organized the American Neurological Association, the first national neurological society.¹

Though it was in Tennessee that many of the injuries occurred that were later studied by Mitchell and Hammond, the state was so disrupted economically by the American Civil War that with one exception it did not participate in this first flowering of American neurology. That exception was Swan Moses Burnett, a Knoxville physician who was one of the founding members of the American Neurological Association. Dr. Burnett was born in 1847 in New Market, Tenn. He graduated from Medicine at the Bellevue Hospital Medical College in New York City in 1870 where one of his teachers was William Hammond. When Hammond formed the American Neurological Association, he thought of his

old student now in practice in Knoxville and invited him to become one of the founding members. Though Dr. Burnett practiced general medicine, his interest gradually developed into the fields of ophthalmology and otolaryngology. Shortly after joining the national neurological organization, he moved to Washington, D.C. where he lived most of his life, dying in 1906.²

At the turn of the century two neurologists began practicing in Tennessee. One was Benjamin Franklin Turner of Memphis, and the other Albert W. Harris of Nashville.

Al Harris (Fig. 1) was born in 1878 on Murfreesboro Road on a farm at the present location of the Nashville Airport. After graduating from Vanderbilt University School of Medicine in 1901, he attended Fordham University in New York the next year for postgraduate training, returning to Nashville to enter medical practice with a deep interest in clinical neurology. He obtained postgraduate training in neurology under John Hughlings Jackson at the National Hospital at Queens Square, London, studying there briefly in 1905 and 1908; and he toured the English countryside in 1911 with four other Nashville physicians, but the outbreak of World War I destroyed his plan to spend one full year studying neurology at Queens Square in 1914. Dr. Harris was in the private practice of medicine and was also in the Department of Mental and Nervous Diseases at Vanderbilt University. Though he was considered a dignified gentleman by his colleagues, he was a "fanatic" about neurological anatomy.3 One of his students, William F. Orr, related many years later how Harris' descriptions of Hughlings Jackson were so vivid that Dr. Orr got the eerie feeling that perhaps Jackson was there with the two of them in that very room in Nashville.

Benjamin Franklin Turner was born in 1860 and attended medical school at Columbia College of Physicians and Surgeons in New York

From the Department of Neurology, Vanderbilt University School of Medicine and Veterans Administration Medical Center, Nashville. Presented at the annual meeting of the Association of Tennessee Neurologists, April 15, 1983.

Reprint requests to Department of Neurology, VA Medical Center, 1310 24th Ave. South, Nashville, TN 37203 (Dr. Freemon).



Figure 1. Dr. AI W. Harris is standing on the porch of his home in London in 1914 with his wife and daughter. The outbreak of World War I destroyed his plans to study with Hughlings Jackson for a full year. (Photograph courtesy of Mrs. Robert H. West of Athens, GA, daughter of Dr. Harris.)

City. He was on the faculty in Memphis, first at the Shelby Medical College and later at the University of Tennessee. His son also became a neurologist after graduation from the University of Tennessee. In the 1920s, the Medical Directory of the American Medical Association listed Benjamin Franklin Turner, his son Carrol Conway Turner, and Al Harris as neurologists. But during the late 1920s and early 1930s, both Turners broadened their practices to neuropsychiatry. Table 1 shows that the younger Turner broadened his practice before the Great Depression. During the late 1930s, Dr. Harris developed cerebrovascular disease and died in Nashville at the age of 64 on the day of the Japanese attack on Pearl Harbor.

Many of the neurological patients in Tennessee during the 1930s and 1940s were taken care of by neurosurgeons. The Semmes-Murphey Clinic of Neurosurgery in Memphis, and Cobb Pilcher, later joined by William F. Meacham, in

Nashville evaluated and treated many patients who today would be cared for by medical neurologists. Much of the clinical neurological training was given by neurosurgeons, in Nashville by William F. Mahoney and in Memphis by Nicholas Gotten. For several decades Dr. Gotten was the only Tennessee member of the American Neurological Association. Gotten and the younger Turner supervised a neuropsychiatric sanitarium in Memphis. Some of the neurological training and patient care was performed by neuropsychiatrists. William F. Orr in Nashville was head of the Department of Psychiatry, which was administratively a part of the Department of Medicine, and saw many different neurological patients. He stated years later that neurology was his love but psychiatry paid the bills.

Neurology as a clinical specialty seemed to begin again in the 1950s. The dean of this new wave of medical neurologists was Bertram E. Sprofkin. Born in New Jersey in 1917, Sprofkin joined the Vanderbilt faculty after a long and varied educational background that included medical graduation from Vanderbilt in 1942 and neurological residency at the New York Neurological Institute under the supervision of Houston H. Merritt. Charles Wells practiced neurology at Vanderbilt for several years before undertaking a second residency in psychiatry. At the end of the decade, neurologic practice in Nashville was enlarged by John Sloan Warner and William M. Clark, Vanderbilt medical graduates who obtained their neurological residency training at the University of Minnesota and at the New York Neurological Institute respectively. Clark is the son of Sam Clark, who chaired the Vanderbilt Department of Anatomy for many years. Calvin Calhoun, an anatomist at Meharry Medical College, was intrigued by the intricacies of neuroanatomy; Sam Clark advised him to pursue

TABLE 1

DESIGNATION OF TENNESSEE NEUROLOGISTS*

Edition	Year	Benjamin Turner	Carrol C. Turner	AI W. Harris
10th	1927	N	N	N
11th	1929	N	NP	N
12th	1931	N	NP	N
13th	1934	NP	NP	N

^{*}In 1927 three physicians in Tennessee listed themselves in the AMA Directory as neurologists (N). By 1934, the Turners were listing themselves as neuropsychiatrists (NP).

FEBRUARY, 1985 79

CLINICAL NEUROLOGY IN TENNESSEE/Freemon

this fascination through a career in clinical neurology. After medical graduation from Meharry, Calhoun trained in neurology at the University of Minnesota. Returning to Nashville, he entered academic practice at Meharry and for many years directed both the Department of Anatomy and the Division of Neurology.

The first neurologist in Memphis since the Turners who was neither a neurosurgeon nor a neuropsychiatrist was Gene Lasater, a Vanderbilt medical graduate who obtained his neurological training at Minnesota. He was in private practice and at the University of Tennessee from 1955 to 1958. The teaching load was heavy because Tennessee started a new class every quarter in those days. Whenever Sprofkin and Lasater met at a national neurological meeting they immediately convened a meeting of the "Tennessee Neurological Association," with its full complement of members present.

In the early 1960s, the University of Tennessee formed a Department of Neurology. Its first head was Robert Utterback, who also received his neurological training at the University of Minnesota. Utterback recruited John Nelson, who is presently chief of Neurology at the University of Oklahoma, and Helio Lemmi and Charles Cape, who are both still in practice in Memphis.

The first neurologist east of Nashville was Neal C. Brown of Chattanooga. Vanderbilt University set up a Department of Neurology in 1969 under Gerald M. Fenichel.

Tennessee did not participate in the early development of neurology in the United States, unless one acknowledges the "contributions" of the Confederate soldiers who inflicted the injuries that so interested Mitchell and Hammond. There were three neurologists in Tennessee in the early years of the 20th century but two of these broadened their practices to neuropsychiatry. In the 1940s neurosurgery and psychiatry shared the types of patients who are not cared for by neurologists. A new birth of clinical neurology in Tennessee began in the 1950s and 1960s, with the first wave led by physicians who graduated from Vanderbilt (Sprofkin, Lasater, Warner, Clark) and obtained neurological training either at the New York Neurological Institute under Houston Merritt (Sprofkin, Clark) or at the University of Minnesota under A. B. Baker (Lasater, Utterback, Warner, Calhoun).

REFERENCES

1. DeJong RN: A History of American Neurology. New York, Raven Press, 1982, pp 14-24

2. Platt SJ, Ogden ML: Medical Men and Institutions of Knox County, Ten-

nessee, 1789-1957. Knoxville, Tenn, Newman Printing Co, 1969, pp 235-236.

3. Kampmeier RH: Recollections: The Department of Medicine, Vanderbilt University School of Medicine, 1925-1959. Nashville, Tenn, Vanderbilt University Press, 1980, pp 168-169.

Help for Impaired Physicians

Through its Committee on Impaired Physicians, TMA helps doctors who are suffering from alcoholism and drug addiction. The thrust of the program is rehabilitative, not punitive. The Committee is composed of physicians who have special expertise in these areas, some from personal experience. Effective treatment for these illnesses is achieved most easily when the disease is detected early and family, friends, and associates are urged to avoid misguided sympathy which enables the condition to deteriorate.

HELP US TO HELP

Call the TMA Impaired Physician Program (615) 327-2711; outside Nashville call collect. Phone service available around the clock.

Pancreatic Carcinoma Presenting With Isolated Bleeding Gastric Varices

JUAN J. ALBERTI-FLOR, M.D.; JAN EVANS, M.D.; and G. DEWEY DUNN, M.D.

Introduction

Twenty-five thousand patients were diagnosed as having pancreatic carcinoma in 1983, with 22,600 deaths. Signs and symptoms are nonspecific, but weight loss is the most common symptom. Upper gastrointestinal hemorrhage due to isolated gastric varices and splenic vein thrombosis in patients with pancreatic carcinoma has been reported²⁻⁵ but is unusual.

Case Report

A 78-year-old man was admitted to the hospital for evaluation of intermittent upper gastrointestinal bleeding for five months, requiring admission in April 1984 to a community hospital. Upper gastrointestinal x-ray examination and barium enema were normal, and he received four units of blood and was discharged. In October 1984 he was again admitted to the same hospital with melena and a hematocrit of 17%. When gastroscopy and colonoscopy were reported as negative, the patient was transferred to the Nashville V.A. Medical Center.

Physical examination revealed a well-developed, alert, chronically ill, nonicteric black man with a blood pressure of 150/90 mm Hg and a temperature of 98° F. Cardiopulmonary examination showed only a grade 2 systolic ejection murmur at the left sternal border. Abdominal examination revealed normal bowel sounds, but the right upper quadrant was somewhat tender and the liver was felt about 4 cm below the right costal margin and was nodular. There was no splenomegaly or ascites. Rectal examination failed to reveal masses, but stool was Hemoccult positive. The rest of the physical examination was noncontributory.

Laboratory tests revealed a hemoglobin of 9.2 gm/dl and a hematocrit of 27%. White blood cell count was 9,400/cu mm with a normal differential. The platelet count, prothrombin time, and partial thromboplastin time were normal, as were serum glucose, electrolytes and creatinine. Alkaline phosphatase was 810 units/liter (normal 30-115), total bilirubin 1.7 mg/dl, and aminotransferase (SGOT) 269 units/liter.

Upper gastrointestinal endoscopy revealed "coffee-ground" material in the stomach and varices in the upper stomach. Computarized tomography (CT) of the abdomen (Fig. 1) revealed multiple liver lesions compatible with metastatic disease, and a large mass arising from the pancreas. The late-phase of a

splenic arteriogram was consistent with splenic vein occlusion (Fig. 2). Due to the patient's continuous bleeding splenic artery embolization was performed. The patient refused liver biopsy, and was transferred to another V.A. facility near his home.

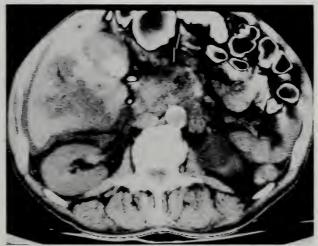


Figure 1. CT scan of the abdomen. Note extensive metastatic deposits in the right lobe of the liver and the mass in the body of the pancreas (arrow). Gallstones are also present.



Figure 2. Late-phase of the splenic arteriogram demonstrating occlusion of the splenic vein (arrow).

FEBRUARY, 1985

From the Division of Gastroenterology, Department of Medicine, Vanderbilt University School of Medicine and Veterans Administration Medical Center, Nashville.

Reprint requests to Division of Gastroenterology (111-B), VA Medical Center, 1310 24th Ave. South, Nashville, TN 37203 (Dr. Alberti-Flor)

PANCREATIC CARCINOMA/Alberti-Flor

Discussion

The etiology of gastric varices due to splenic vein occlusion has been reported with diverse diseases of which pancreatic disorders are the most important. Among the most common are pancreatic carcinoma,²⁻⁶ pseudocysts,³⁻⁷ and pancreatitis,³⁻⁹ and less commonly abdominal trauma, pancreatic abscesses, and retroperitoneal malignancy. Furthermore, idiopathic splenic thrombosis has been reported.¹⁰

Uncommonly, carcinoma of the pancreas may cause bleeding from isolated gastric varices, usually due to invasion of the splenic vein by tumor. Typically, when the splenic vein is occluded, the blood flow in the short gastric and gastroepiploic veins is reversed and increased giving rise to gastric varices.

Isolated gastric varices is a specific sign of splenic vein thrombosis, but the presence of both gastric and esophageal varices should suggest other possibilities, such as portal hypertension. Isolated splenic vein thrombosis is uncommon, with an estimated incidence of 1.2%.11 Muhletaler et al⁵ reported 18 cases of splenic vein thrombosis, five of them with pancreatic carcinoma; only 2 of the 18 had hematemesis initially, but half of them had either hematemesis, anemia, or melena. Only three of the patients with pancreatic carcinoma had gastroscopy, which showed gastric varices in only one, but angiography demonstrated varices in all cases. In reviewing the literature in 1970, Sutton et al4 found that 19 out of 53 cases had splenic vein occlusion due to carcinoma; upper gastrointestinal bleeding was present in 65%. Keith et al³ in 1982 reported nine cases, one of which had pancreatic carcinoma with bleeding gastric varices due to splenic vein thrombosis. In 1973, Johnston and Myers¹² reported eight cases of splenic vein thrombosis, two from pancreatic carcinoma, but none having gastrointestinal bleeding as the presenting problem.

Endoscopy continues to be the best method for diagnosing upper gastrointestinal bleeding, but it should be kept in mind that gastric varices may mimic prominent folds, and may be missed by an inexperienced endoscopist. The venous phase of the splenic arteriogram may demonstrate occlusion of the splenic vein as well as the presence of gastric varices.

Management of bleeding gastric varices may include mechanical tamponade, splenectomy,6 and splenic artery embolization, 13 with endoscopic sclerotherapy as an alternative.

Summary

In a patient with intermittent upper gastrointestinal hemorrhage, gastric varices were documented during endoscopy. Extensive metastatic liver disease and a pancreatic mass compatible with carcinoma were found, in addition to splenic vein thrombosis on splenic arteriogram. Splenic artery embolization was performed as part of the management.

REFERENCES

- 1. American Cancer Society: 1983 Cancer Facts and Figures. New York, Amer-
- ican Cancer Society, 1982, p 10.

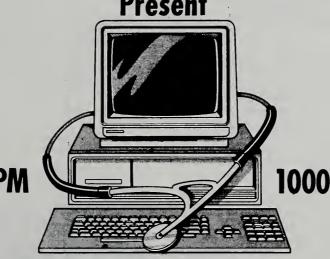
 2. Marks LH, Weingarten B, Geist G: Carcinoma of the tail of the pancreas associated with bleeding gastric varices and hypersplenism. Ann Intern Med 37:1077-1084, 1952
- 3. Keith RG, Mustard RA, Saibil EA: Gastric variceal bleeding due to occlusion of splenic vein in pancreatic disease. Can J Surg 25:301-304, 1982
- 4. Sutton JP, Yarborough DY, Richard JT: Isolated splenic occlusion. Arch Surg 100:623-626, 1970.
- 5. Muhletaler C, Gerlock J, Gouchcrenko V, et al: Gastric varices secondary to splenic vein occlusion: Radiographic diagnosis and clinical significance. Radiology 132:593-598, 1979.
- 6. Little AG, Moossa AR: Gastrointestinal hemorrhage from left-sided portal hypertension. Am J Surg 141:153-158, 1981.

 7. Goldstein GB: Splenic vein thrombosis causing gastric varices and bleeding.
- Am J Gastroenterol 58:319-325, 1972.
- Longstreth GF, Newcomer AD, Green PA: Extrahepatic portal hypertension caused by chronic pancreatitis. Ann Intern Med 75:903-908, 1971.
- 9. Kretser DM, Bird T, McCollum JK: Bleeding and pancreatitis. Br Med J 2:1306, 1966,
- 10. Goldberg S, Katz S, Naidich J, et al: Isolated gastric varices due to spontaneous splenic vein thrombosis. Am J Gastroenterol 79:304-307, 1984.
- 11. Girunert RD, Oeff K, Gerstenberg E, et al: Diagnosis of isolated splenic vein occlusion by radioportography. Surgery 59:364-367, 1966.
- 12. Johnston FR, Myers RT: Etiologic factors and consequences of splenic vein obstruction. Am Surg 177:736-739, 1973.
- 13. Spigos DG, Jonasson O, Mozes M, et al: Partial splenic embolization in the treatment of hypersplenism. Am J Radiol 132:777-782, 1979





Present



MEDICAL PRACTICE MANAGEMENT SYSTEMS Available through SMA Physicians Purchasing Program

*Discounts on IBM and Texas Instruments Hardware *Discounts on Software *Now Available on New IBM PC/AT

MPM 1000 the complete system includes:

- *Hardware (IBM or Texas Instruments)
- *Software
- *Training
- *After Sale Support
- *Solo, Group Practice or Clinic Systems

Designed to work in all aspects of practice management

- Standard Programs include:
 - *Patient Profiles *Accounts Receivable/Billing
 - *Insurance Processing/Tracking
 - *Collection System
 - *Recall Notices
 - *Full line of Management Reports
 - *And much more . . .

- Optional Programs include:
 - *Word Processing
 - *General Ledger
 - *Accounts Payable
 - *Payroll
 - *Inventory Control
 - *Appointment Scheduling

Want more information? Call or write for detailed brochure Call Southern Medical at 205-945-1840

Curtis 1000 Information Systems at 800-241-4780 in Ga 404-491-1000

I would like to know more about the MPM 1000.

- □ SMA Member
- □ I am not an SMA Member

Name

Address

City

State

Zip

Office Phone

Mail to: CURTIS 1000 INFORMATION SYSTEMS

2296 Henderson Mill Road

Suite 402

Atlanta, Georgia 30345

Cyanotic Congenital Heart Disease in Adults

CHARLES E. KOSSMANN, M.D., Editor

RANDALL C. FREDERICK, M.D. (Resident Physician)

A 22-year-old black man, came to the City of Memphis Hospital with a two-day history of productive cough, fever, diaphoresis and shortness of breath at rest. He denied any chills, hemoptysis or pleuritic pain. Congenital heart disease of unknown type was discovered at the age of 2 but he never received any special studies or cardiac care. He had noticed that his fingernails looked "funny" ever since he was in elementary school. Development, to his recollection, was normal but he always had difficulty keeping up with his peers physically, most recently manifested by his inability to play basketball. Further, a new symptom was shortness of breath after one block of slow walking. His symptoms on admission represented a distinct worsening of the chronic process.

The blood pressure was 140/80 mm Hg with a paradox of 30 mm Hg, a pulse rate of 100/min, labored respirations at 30/min, and a temperature of 102.6°F. He was sweating and using all his accessory respiratory muscles to breathe. The lips were cyanotic. Wheezes and rhonchi were audible diffusely throughout both lungs, and breath sounds were decreased in intensity over the right upper lobe. The heart rhythm was regular, the PMI was actually an area involving the entire left chest, but it could be separated from a significant right ventricular heave. S₁ was normal, S₂ was single and palpable; a grade III systolic ejection-type murmur was heard at the lower left sternal border with a rapid filling gallop sound at the apex. On percussion the liver extended 14 cm below the costal margin in the midclavicular line. There was 4+ clubbing of the cyanotic fingers and toes.

The serum bicarbonate was 32 mEq/liter but the electrolytes were otherwise within normal limits. The hematocrit was 69% and the white blood cell count was 10,500/cu mm, of which 87% were segmented neutrophils, but there were no band forms. Study of the arterial blood disclosed a pH of 7.33, a Po₂ of 29 mm Hg and a Pco₂ of 54 mm Hg while the patient was breathing room air. With an 80% FIO2 by mask the pH was 7.32, the Po₂ 50 mm Hg, and the Pco₂ 54 mm Hg. Gram stain of the sputum showed Gram positive diplococci. The thoracic roentgenogram showed generalized cardiomegaly, dilated central pulmonary arteries, ischemic lung peripherally, an infiltrate of the entire right upper lobe, and a large bulla in the left apex. The vascular pedicle was narrow, the pulmonary artery seemed to be absent or hidden, and there was a prominence on the left cardiac border (Fig. 1). The left atrium was enlarged. The electrocardiogram displayed a sinus tachycardia, deviation of the electrical axis to the right, and abnormalities of the deflections commensurate with right ventricular and biatrial enlargement (Fig. 2).

The echocardiogram revealed absence of the interventricular septum, an apparent conus tract on the left side of the single ventricle, transposed great arteries, but normal atrioventricular (AV) valves (Fig. 3).

In the intensive care unit he was begun on intravenous (IV) penicillin for what was presumed to be a pneumococcal pneumonia, with prompt defervescence of the fever. Dyspnea also decreased although the resting respiratory rate remained at 24/min or more. The arterial PO_2 on room air improved to levels between 45 and 55 mm Hg.

The final diagnoses were: (1) pneumococcal pneumonia, RUL; (2) emphysematous bullae, LUL; (3) congenital malformation of the heart—single ventricle with infundibular tract on the left; transposition of the basal arteries; (4) Eisenmenger syndrome (pulmonary hypertension).



Figure 1. Thoracic roentgenogram made on Feb. 16, 1983. The cardiac silhouette is enlarged downward and to the left with elongation of the right border in part due to a slight bulge of its upper extent by an enlarged left atrium. The vascular pedicle is narrow (transposition of arteries) and just below it on the left is an acute angle, the result of absence from the area of the main pulmonary artery. Below the sharp angle is a considerable prominence produced by the infundibular tract of the single ventricle. The right and left pulmonary arteries are dilated but peripheral pulmonary flow shadows are diminished. The lungs show irregular infiltration of the RUL and a large bulla occupying the apex of the left upper lobe poorly visualized due to overexposure.

From the Department of Medicine, University of Tennessee, 951 Court Ave., Memphis, TN 38163.

THOMAS E. RATTS, M.D.

(Assoc. Professor of Medicine, Cardiology)

Cyanotic congenital heart disease in the adult is a topic that generally provokes a predictable negative response from the medical audience. I think there are two reasons for this. On the one hand, it calls to mind the vast array and combinations of abnormalities that can occur in the development of the cardiovascular system. On the other, a large area of "disuse atrophy" in our basic fund of medical knowledge is exposed because we don't commonly encounter patients of this kind. My goal today is to provide you with a framework on which to make the diagnosis and develop a program of management for these pa-

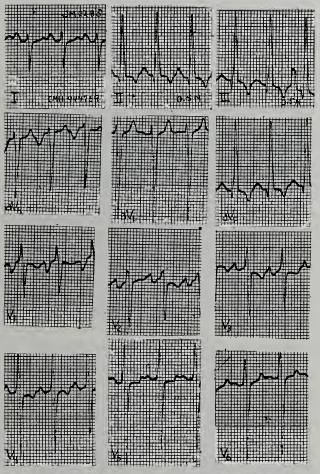


Figure 2. Electrocardiogram of Feb. 10, 1983. There is sinus tachycardia with a large diphasic P wave in leads V_1 to V_4 (biatrial enlargement), high voltage and right deviation of the electrical axis of QRS (usual when infundibular tract of single ventricle is on the left), high R waves in leads II, III, and aVF, as might be expected with block of the posterior fascicle of the left bundle-branch in an intact left ventricle, precordial R waves with similar times of the intrinsicoid (RS) deflections (0.02 sec), and prominent S waves in all precordial leads indicating a dominance of posteriorly directed ventricular forces. The intrinsicoid deflection in lead aVF occurs at 0.05 sec from the beginning of QRS suggesting an orientation to the left leg of muscle which, with a septum present, would have been left ventricle.

tients so that your initial reaction on encountering a cyanotic adult will be positive rather than negative.

To recognize cyanosis and clubbing in a young adult is no diagnostic coup. Both are ordinarily obvious when you walk into the patient's room. The presence of these signs intensify the physician's anxiety about the situation because he fears it is beyond his capability to determine which of all of the possible structural defects and physiologic alterations that result in cyanosis and clubbing is present.

Diagnosis of "Morbus Ceruleus"

Diagnosis is relatively easy because there are very few diseases that can cause cyanosis and pronounced clubbing in a young adult, so few in fact that they can be counted on one hand. Cyanosis occurs when there are more than 3 to 4 gm of reduced hemoglobin per 100 ml of blood. Such levels occur under two conditions. Peripheral cyanosis occurs when there is increased oxygen extraction in the peripheral vascular beds due to a decrease in cardiac output or profound vasoconstriction with stagnation of blood flow. Central cyanosis occurs when there is venous admixture with arterial blood (right-to-left shunting) within either the pulmonary bed or the cardiovascular system, and is associated with digital clubbing.

The combination of cyanosis and clubbing in a young adult can be caused by only two basic abnormalities. The first is congenital heart disease in which there is a shunt between right and left cardiac chambers or between the great vessels outside the heart. The second is pulmonary disease. Here we must consider cystic fibrosis (the Cystic Fibrosis Foundation is helping patients to live into adulthood), multiple intrapulmonary AV fistulas, multiple recurrent pulmonary emboli, and primary pulmonary hypertension.

Adult Congenital Heart Disease With Cyanosis

What are the cyanotic congenital cardiac lesions that you are apt to see in adulthood? There are basically only two. The first is the *Eisenmenger syndrome*. With it, right-to-left shunting occurs as a result, initially, of a large left-to-right shunt at the ventricular, atrial, or great artery level. As a reaction to the excessive pulmonary flow, progressive pulmonary vascular obstruction and hypertension occur with eventual reversal of the shunt. The Eisenmenger syndrome is the most

FEBRUARY, 1985 87

common cardiac cause of cyanosis in adults and was the cause in the case being presented. The second cardiac cause is the *tetralogy of Fallot* and its spectrum.

It is most important to recognize that 90% to 95% of adult patients with cyanotic heart disease have one or the other of these two congenital anomalies. The nine to one odds are attributable to the fact that, by the time adult life is reached, most of the other complex congenital malformations have either been corrected surgically or the patients have died.

Eisenmenger Syndrome

As noted, the Eisenmenger syndrome results from an elevation of pulmonary vascular resistance with reversal of flow through a shunt that was initially left-to-right. The terms Eisenmenger syndrome, Eisenmenger reaction, and Eisenmenger physiology are used interchangeably in the literature for the pathophysiology described. By contrast, the term Eisenmenger complex refers specifically to a ventricular septal defect with right-to-left shunt resulting from the Eisenmenger reaction.

The syndrome was described in 1897 by Victor Eisenmenger¹ but it was Paul Wood's report in 1958² that provided the first large careful study. In it he described his experience over a period of 20 years with 127 patients with the syndrome. In addition, Wood quoted from Eisenmenger's original account of a patient as follows: "Eisenmenger's patient was a powerfully built man of 32 who gave the history of cyanosis and moderate breathlessness since infancy. He managed well enough until January of 1894 when dyspnea increased and edema set in. He improved with rest and digitalis but collapsed and died more or less suddenly following a large hemoptysis. At necropsy a large 2 by 2½ cm defect was found in the membrane of the septum."

The natural history of Eisenmenger's syndrome varies depending upon the magnitude and the location of the communication—between the atria, ventricles, or the great arteries. A large ventricular septal defect (VSD) or its equivalent (see below), or a patent ductus arteriosus (PDA) results in considerable left-to-right shunting during infancy. By the time a child is 3 years of age, or certainly by the school years, there is already irreversible pulmonary hypertension. The ultimate fate of today's patient was settled during early childhood.

The situation with an atrial septal defect

(ASD) is different insofar as it is not initially associated with a large left-to-right shunt. (An exception is the most unusual circumstance of an excessively compliant right ventricle, which may permit an early large left-to-right shunt into the pulmonary bed). The Eisenmenger reaction to an ASD does not develop until adulthood is reached. It is almost always postpubertal and is more common in women, where it simulates primary pulmonary hypertension. The natural history, then, is different in atrial septal defect from that of the large left-to-right shunt of infancy associated with a large ventricular septal defect or a large patent ductus arteriosus.

The Pulmonary Vasculature in the Eisenmenger Syndrome: The histological appearance of the pulmonary vasculature is similar in the three anatomic types of shunts (VSD, PDA, ASD). The original descriptive classification, used over many years, was that of Heath and Edwards.³ Recently, Roberts⁴ has presented a simplified histologic classification of three grades of pulmonary vascular changes resulting from excessive pulmonary flow in congenital heart disease.

The normal elastic nonparenchymal pulmonary arteries have little muscle. Normal arteries within the parenchyma display a small amount of muscle in the wall extending peripherally to the smallest arterioles. Grade I hypertensive changes consist of increased medial thickening in either parenchymal or nonparenchymal arteries. Medial hypertrophy is normally seen in a newborn in the first month of life, but if it persists after three to six months, it is abnormal. Medial hypertrophy may be seen during infancy in the child with a large left-to-right shunt. With increase in pulmonary flow the medial hypertrophy present at birth fails to regress, and hyperplasia or hypertrophy progress through an unknown mechanism.

Grade II lesions include not only medial hypertrophy, but also intimal thickening, which increases with age and is not specific for pulmonary hypertension.

Grade III lesions are the most specific and the most progressive histologic abnormality—the so-called plexiform lesion. It is an aneurysmal or glomus-like structure developing perpendicular to the long axis of a pulmonary artery; it occurs only in the parenchymal arteries. Viewing the plexiform lesion longitudinally reveals saccular dilatation of the vessel wall and neovascular channels adjacent to the vessel, an appearance not unlike the berry aneurysm sometimes found in

the cerebral arteries with systemic hypertension. The plexiform lesion is specific for pulmonary arterial hypertension. The lesions may be found with both primary pulmonary hypertension and the described reaction to a large left-to-right shunt. They do not occur in pulmonary venous hypertension.

As shown by Roberts, the morphologic vascular patterns correlate with the degree of pulmonary hypertension.⁴ In individuals with both medial and intimal thickening there is considerable variability in the pulmonary artery pressures, though all patients with plexiform lesions have severe pulmonary hypertension, with pressures at the systemic level. They tend to have progressively increasing pulmonary vascular resistance with a poor prognosis and shortened survival. Since closure of cardiac shunts in patients with these lesions may be disastrous, there is strong argument for early recognition and correction of shunts before severe pulmonary vas-

cular changes develop.

Ventricular Septal Defect Equivalents: The subject of VSD is complicated somewhat because we must keep in mind the VSD equivalents—defects that behave hemodynamically and historically like a ventricular septal defect but are actually something else. The most common of these is the single ventricle; as in the patient presented today, there is no ventricular septum. Most patients with a single ventricle also have transposition of the great arteries. The pulmonary artery originates more posteriorly than normal, and the aorta arises anteriorly and usually somewhat lateral to one side or the other of the single ventricle.

The second of the VSD equivalents is the double-outlet right ventricle, where both great arteries originate from the right ventricle. There is a variable degree of associated left ventricular hypoplasia.

The third VSD equivalent is the truncus arter-

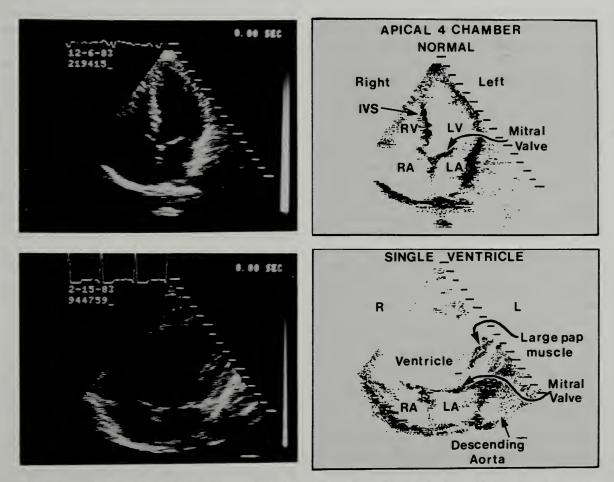


Figure 3. Apical four-chamber view of the two-dimensional echocardiogram of a normal subject (upper echocardiogram on left, with labelled diagrammatic representation on the right) and of single ventricle of present patient in two lower comparable figures made on Feb. 15, 1983. The latter show absence of the interventricular septum (IVS), and normal AV valves.

FEBRUARY, 1985 89

iosus, in which a single vessel arises in common from the two ventricles. Survival to adulthood is rare

Patients with VSD equivalents have significant cyanosis from birth. Left-to-right shunting occurs early because of the low pulmonary vascular resistance in the newborn. After a time, however, the reactionary phenomenon sets in, pulmonary resistance rises, pulmonary flow decreases, and the shunt is reversed.

For survival to adulthood there must be good mixing of oxygenated with hypoxic blood, and there must be development of collaterals, usually by way of the bronchial vessels, to increase pulmonary vascular flow.

Symptoms and Signs of the Eisenmenger Syndrome: The patients are usually not strong, athletic individuals, as in Eisenmenger's original description; rather as adults they are usually slender and asthenic, have easy fatigability, and are not able to keep up with their peers. Cardiovascular findings include a prominent "a" wave in the neck veins reflecting a hypertrophied, noncompliant right or common ventricle. A right-sided ventricular lift is usually present. The second sound is almost always loud, and though usually single, it can occasionally display fixed splitting with ASD or PDA complicated by pulmonary hypertension. The systolic murmur is usually not loud, and the loudness of the murmur of today's patient was probably related to the increased cardiac output associated with the pneumonia. The first heart sound may appear split at the base as the result of an ejection sound generated in a dilated pulmonary artery. There may be a diastolic blow following the second heart sound, the Graham Steell murmur,⁵ produced by pulmonary regurgitation in association with pulmonary hypertension.

Roentgenogram: The thoracic radiograph shows large central pulmonary arteries. In the parenchyma, on the other hand, there is a decrease or "cut-off" of peripheral vascularity, a classical sign of longstanding pulmonary hypertension. Usually only mild cardiomegaly is present. Patients with an ASD and the Eisenmenger physiology do not ordinarily display the extreme peripheral vascular reaction encountered with VSD. The largest pulmonary arteries are to be seen in the older patient with ASD, associated frequently with marked cardiomegaly. With a single ventricle, cardiomegaly is usually greater than that seen with the combination of VSD and pulmonary hypertension.

Electrocardiogram: The electrocardiogram in Eisenmenger physiology is similar to the one in our patient today. There is usually right deviation of the electrical axis of QRS, with dominant R waves in the right precordial leads and S waves in left precordial leads signifying right ventricular hypertrophy. The P wave may be normal or large and biphasic in lead V_1 . There may be AV block, but it is not common.

Complications: All of the patients have polycythemia, an obvious compensation for the unsaturated hemoglobin. This in itself can cause problems, particularly when the hematocrit is above 70%. Symptoms such as headache from increased intracranial pressure are presumably caused by the increased viscosity of the polycythemic blood, and modification of clotting cofactors may result in bleeding. Reducing the hematocrit by phlebotomy can restore cofactor function. Intravascular clotting can lead to cerebral thrombosis, a relatively frequent complication in the adult with the Eisenmenger syndrome. Infections happen, but whether a predisposition exists is not known. An exception is the brain abscess. Any patient with an intracardiac right-to-left shunt that bypasses "the pulmonary screen" is at increased risk of developing a brain abscess, usually due to one of the common pyogenic bacteria, such as pneumococci, streptococci, or staphylococci. Endocarditis is uncommon.

The risk of sudden cardiac death is high in these patients. Ectopic rhythms occur, but even in their absence patients frequently die suddenly. Fatal pulmonary hemorrhage can also occur as it did in Eisenmenger's patient. Birth control pills have been shown to increase pressure in the pulmonary arterial bed and contribute to an increased mortality.

With the exception of ASD, patients seldom survive past their 30s with the Eisenmenger syndrome.

Tetralogy of Fallot

The other relatively common form of cyanotic congenital heart disease is tetralogy of Fallot. Few patients with the tetralogy unmodified by surgery survive to adulthood. The malformation really consists of two major structural anomalies, namely infundibular or valvular pulmonic stenosis and a large, usually subpulmonic VSD. This combination decreases flow to the pulmonary bed and results in venous admixture to the left side. The amount of shunt is directly proportional to

the degree of obstruction to pulmonary blood flow. Obstruction to right ventricular outflow results in right ventricular hypertrophy (the third component of the tetralogy), and hypoplasia of the right ventricular outflow tract (infundibulum) results in aortic override of the large ventricular septal defect (the fourth component).

In a less common variant, the so-called *trilogy*, there is valvular pulmonic stenosis, prolapse of the tricuspid valve, and right-to-left shunting through an ASD or patent foramen ovale due to high filling pressures on the right side of the heart.

Tetralogy of Fallot covers a spectrum of variable magnitudes of VSD and right ventricular outflow obstruction at the infundibular or valvular levels, and sometimes in the proximal pulmonary arteries. The obstruction may be mild or total, as in pulmonary atresia with no pulmonic valve, or no left pulmonary artery. An additional interesting variant is the inclusion of a right-sided aortic arch. The common form of this anomaly is usually associated with severe outlet obstruction of the right ventricle at the infundibular level. Such patients may also be without one or both pulmonary arteries, so that pulmonary flow must come from collateral vessels, as in truncus arteriosus; hence, the term pseudotruncus is sometimes used to refer to the pulmonary atresia and right ventricular hypoplasia seen with this variant of the tetralogy. Coronary artery anomalies can also occur, a fact to be kept in mind by the surgeon when total repair is considered.

Pathophysiology of Squatting: The patient with tetralogy frequently squats, particularly during childhood. Why does the patient benefit from squatting? Squatting increases the peripheral resistance in the systemic bed, thus decreasing the right-to-left shunt and the cyanosis. Sustained squatting also decreases the venous return available for mixing across the right-to-left communication. Patients learn that by squatting they can reduce cyanosis and in some instances reverse acute hypoxic episodes.

Prognosis and Surgical Palliation: Left uncorrected, fewer than 20% of patients with tetralogy of Fallot survive into adulthood, and by the age of 40 almost all have died. Patients who survive to adulthood must have a reasonably limited venous admixture and be able to increase pulmonary flow by developing bronchial collateral vessels to the pulmonary bed, or alternatively by having mild pulmonary stenosis. This observation led Blalock and Taussig in the 1940s6 to de-

velop an operation for increasing blood flow to the lungs by connecting the right subclavian artery to the right pulmonary artery. Before the period of cardiopulmonary bypass greater numbers of patients survived into adulthood than previously with this iatrogenic "ductus." Other shunts have been used, but the Blalock-Taussig operation has been the one most commonly performed. Unfortunately, it cannot be performed in an infant; for them Waterston designed his procedure,7 an anastomosis between the ascending aorta and the right pulmonary artery. The Potts' operation⁸ was an earlier shunt procedure using the descending aorta and the left pulmonary artery. The Potts' shunt was harder to repair when a later total correction, a procedure designed only after cardiopulmonary bypass became available, was attempted.

Symptoms and Signs: Patients with tetralogy of Fallot have a history similar to that of the Eisenmenger patient, consisting of weakness and asthenia. As noted, they tend to squat in childhood. Though in appearance they are similar to the Eisenmenger patients, their physical findings are quite different. The neck veins are normal; the explanation given is that in utero, the right ventricle has been pumping against a systemic vascular resistance of variable degree, and it continues to do so after birth, maintaining its stroke volume without having to elevate its filling pressure. This is in striking contrast to what happens in acquired right ventricular hypertrophy, wherein high filling pressures are the rule. The important point to remember is that the neck veins are generally normal in uncomplicated tetralogy. A parasternal right ventricular lift is usually present, and the pulmonary artery is not palpable because of hypoplasia. In contradistinction to the patients with Eisenmenger physiology, the second heart sound is diminished. The systolic ejection murmur is variable in intensity, reflecting the magnitude of pulmonary blood flow. In general, the louder and longer the murmur the better the pulmonary flow, the less the cyanosis, and the better the patient's clinical course. Continuous murmurs over the back and in the peripheral pulmonary bed may be heard due to the development of bronchial collateral vessels by many patients who have survived unrepaired into adulthood.

Roentgenography: The thoracic roentgenogram is quite different from that of the Eisenmenger patient. The pulmonary arteries are small and pulmonary vascular markings are reduced.

FEBRUARY, 1985 91

Cardiomegaly is not prominent. The pulmonary outflow tract may be diminished and the cardiac apex lifted off the diaphragm. A right aortic arch, usually associated with greater degrees of pulmonary stenosis, may be present.

Electrocardiogram: The electrocardiogram is similar to that of the Eisenmenger patient. There are large R waves in right precordial leads, with right axis deviation of the QRS. P waves tend to be normal, reflecting normal right-sided filling pressures.

Complications: Complications are similar to those of the patient with the Eisenmenger physiology. Both have polycythemia and the potential dangers of it-clotting, intracranial hypertension, bleeding. Infections seem to occur easily and brain abscess is among them. Unlike the Eisenmenger syndrome, pulmonary ischemia is said to predispose to pulmonary tuberculosis. Endocarditis is a real risk, and patients need antibiotic prophylaxis both before and after cardiac repair. There may be frequent ventricular extrasystoles, particularly with exercise, and these patients are at risk for sudden death. It is important in both Eisenmenger syndrome and in tetralogy to keep the female patient from becoming pregnant. 9,10 Pregnancy carries an unusually high maternal mortality, varying from a reported 30% to 70%. The best contraception is sterilization.

Differential Diagnosis of "Morbus Ceruleus" Of Cardiac Origin

The differential diagnosis of cyanotic cardiac disease is summarized in Table 1. The history doesn't help much, though a history of squatting may. A careful physical examination will make the diagnosis. Large "a" waves in the cervical veins favor Eisenmenger syndrome. The second sound is loud in Eisenmenger and normal to faint in tetralogy. The systolic murmur tends to be faint in Eisenmenger, but there is considerable overlap in the intensity and duration of the murmurs in the two conditions. The thoracic roentgenogram is quite characteristic in each disease. The differences are so great that the diagnosis can usually be made from the films with considerable confidence. Large pulmonary arteries with normal or near normal heart size is found with the VSD and Eisenmenger physiology, but with ASD or single ventricle the heart may be large. Patients with tetralogy tend to have a characteristic silhouette. The electrocardiogram is not helpful in the differentiation.

Treatment

The treatment differs in the two entities. Surgical correction is the therapy for tetralogy of Fallot, the principal contraindication to surgery being pulmonary arteries too small to take a graft or additional flow. Assessment of the size of the pulmonary arteries is best done in the cardiac catheterization laboratory. Sometimes it can be done by CT scan but probably not as reliably. As mentioned earlier, surgery is contraindicated in Eisenmenger syndrome.

Supportive therapy for both conditions includes the use of antibiotics for prevention of endocarditis and treatment of infections. Phlebotomy to prevent complications related to polycythemia may be necessary, particularly if the hematocrit is over 70%, but the fluid should be returned after phlebotomy in order to avoid precipitating hypotension. Pregnancy must be prevented.

What the surgeon is able to do to "totally" correct the rather complex and variable abnormality of tetralogy of Fallot may not be clear. He can open the right ventricular outflow tract and extend the incision into the pulmonary artery so that he can see any area of hypoplasia there. He then closes the ventricular septal defect through this incision. He resects the infundibulum then closes the incision with a patch of pericardium or dacron in order to widen the obstructed outlet. This is usually the most difficult part of the operation. If extreme hypoplasia or atresia makes it technically impossible to do all this, in an alternative approach the body of the

TABLE 1

MAJOR CLINICAL DIFFERENCES IN TWO TYPES
OF ADULT CYANOTIC HEART DISEASE

	Elsenmenger	Fallot
History	Asthenia	Asthenia
·	Short stature	Short stature
		Squatting in childhood
Examination		
Cervical veins	Large "a" wave	Normal
Pulmonic second sound	Loud	Faint
Systolic murmur	Faint	Loud
Thoracic roentgenogram	Large pulmonary arteries	Small pulmonary arteries
	Enlarged cardiac silhouette	Normal size cardiac silhouette
EKG	RVH	RVH
Therapy	Supportive	Surgery

right ventricle may be opened, the ventricular septal defect patched, and a valve-conduit containing a porcine aortic valve used to connect the right ventricle to the pulmonary artery. This is known as the Rastelli procedure. 12 Obviously, the pulmonary arteries have to be large enough to allow the graft to be sewn in.

What can go wrong? Well, Murphy's Law applies-almost anything can go wrong. The most common postoperative problem is residual right ventricular outflow obstruction, which occurs because either the obstruction could not be fully relieved by resection, the infundibular patch was not large enough, or there was unsuspected or underestimated stenosis distal to the patch site in a distal pulmonary branch.

Problems related to a previously created arterio-pulmonary shunt can also occur. If the shunt is taken down and a complete repair done, fibrosis and damage, largely to the contralateral peripheral pulmonary vessels, may result from the newly increased perfusion, leading to an Eisenmenger reaction. The patient with a completely repaired tetralogy is still a potential candidate for bacterial endocarditis. Seventy percent of patients with a patch in the right ventricular outflow tract have pulmonary regurgitation; it is the most common cause of normotensive pulmonary regurgitation. The regurgitant murmur begins well after S₂, or like the Graham Steell murmur, which begins with S₂. It has little hemodynamic significance. Rhythm abnormalities may follow injury to the AV node and conduction system near the septal defect, though surgically produced AV block, encountered occasionally 10 to 15 years ago, is now rare as a result of improved technique. Sudden death remains a problem in the

patient whose anomalies have been corrected.

Because iatrogenic shunts have caused a variety of problems, completely corrective surgery is being performed in infancy with good early results. The next ten years will provide us with experience in dealing with these individuals as adults.

Summary

When you see cyanosis and clubbing in a young adult there are very few diagnoses to consider. There is either right-to-left shunting due to pulmonary disease, such as might occur in cystic fibrosis, or shunting due to a congenital cardiac malformation, of which only two are likely—Eisenmenger's syndrome or tetralogy of Fallot. Physical examination and a roentgenogram of the chest will be most helpful in deciding which is present.

REFERENCES

- 1. Eisenmenger V: Die angeborenen Defecte der Kammer-Scheidewand des Herzens. Ztschr Klin Med 32 (suppl):1-28, 1897.
- 2. Wood PW: The Eisenmenger syndrome or pulmonary hypertension with reversed shunt. Br Med J 2:701, 1958.
- 3. Heath D, Edwards JE: The pathology of hypertensive pulmonary vascular disease: A description of six grades of structural changes in the pulmonary arteries with special reference to congenital cardiac septal defects. *Circulation* 18:533, 1958.
- 4. Roberts WC: Congenital heart disease in adults. Cardiovasc Clin 10:531,
- 5. Steell G: The murmur of high pressure in the pulmonary artery. Med Chronicle (Manchester) 9:182, 1888.
- 6. Blalock A, Taussig HB: The surgical treatment of malformations of the heart in which there is pulmonary stenosis or pulmonary atresia. JAMA 128:189,
- 7. Waterston DJ: Treatment of Fallot's tetralogy in children under one year of age. Rozhl Chir 41:181, 1962.
- 8. Potts WJ, Smith S, Gibson S: Anastamosis of the aorta to a pulmonary artery: Certain types in congenital heart disease. JAMA 132:627, 1946.

 9. Meyer EC: Pregnancy in presence of tetralogy of Fallot. Am J Cardiol
- 14:874, 1964.
- 10. Pitts J: Eisenmenger's syndrome in pregnancy. Am Heart J 93:321, 1977.
- Garson A Jr: The surgical decision in tetralogy of Fallot: Weighing risks and benefits with decision analysis. Am J Cardiol 45:108, 1980.
 Rastelli GC, Wallace RB, Ongley PA: Complete repair of transposition
- of the great arteries with pulmonary stenosis. Circulation 39:83, 1969.

Hepatic Trauma

ANDREW B. RITTENBERRY, JR., M.D. and REMBERT M. McELHANNON, M.D.

Introduction

The liver is the largest solid organ in the abdomen, and despite the protection afforded by the rib cage it is also the most frequently injured. The incidence of hepatic trauma is increasing, often with complex injuries. Such figures reflect the increasingly violent nature of our society, with trauma having become the number one killer in those between 1 and 36 years.¹⁻³

Despite this increase in liver injuries, mortality has declined steadily since World War II. Soldiers in Vietnam had a 9% mortality rate for liver wounds, and civilian series quote rates in the 10% range. 1,2,4 Mortality is higher for blunt than for penetrating injury, averaging 30%. Hemorrhage is the leading cause of death, with mortality directly related to the number of associated injuries and excessive blood loss. Late deaths from liver injury result from sepsis, and less commonly, pulmonary or renal failure.

We present a case history to illustrate both the complexity of hepatic trauma and the variety of techniques necessary to manage some wounds.

Case Report

A 21-year-old man was brought to the hospital in shock and respiratory distress following a crushing thoracoabdominal injury. Endotracheal intubation and fluid replacement were immediately instituted. Following stabilization, physical examination revealed a right anterior flail chest, right hemopneumothorax, and abdominal distension. A right tube thoracostomy was performed, and one hour later, the patient was taken to the operating room where through a midline abdominal incision a laceration of the posterior segment of the right hepatic lobe was identified and controlled with compression; splenectomy was also performed, for a splenic laceration, and a rent in the infrahepatic vena cava was repaired by lateral anastomosis. Since the liver laceration stopped bleeding spontaneously, no further treatment was directed toward it and the abdomen was closed with wide drainage of the liver wound. Thirteen units of whole blood were given to replace an estimated blood loss of 6,100 cc. The patient left the operating room in stable condition and was transferred to the intensive care unit where 16 hours later he exhibited evidence of further hemorrhage. A second laparotomy disclosed bleeding from the retrohepatic vena cava, which was again controlled by compression. Because the large laceration to the posterior segment of the right hepatic lobe was also bleeding, median sternotomy was performed with division of the diaphragm for improved exposure, and both right and left hepatic lobes were completely mobilized. Aortic occlusion, superior and inferior vena cava occlusion, and the Pringle maneuver resulted in control of hemorrhage.

The laceration of the anterior wall of the retrohepatic vena cava and a previously unrecognized laceration of the suprahepatic portion were identified and repaired, requiring sublobar resection of the posterior segment of the right hepatic lobe. Individual vessels were then suture ligated, and the cavitary defect in the liver was packed with an omental pedicle graft. Since excessive oozing from the raw surface of the liver appeared to respond to manual tamponade, a technique to provide and maintain tamponade was employed using 5-mm strips of Mersilene tape fashioned into a net and tied about the liver, providing effective tamponade and diminishing oozing. Several intraoperative hypotensive episodes and the development of a coagulopathy ultimately required the addition of a small pack at the superior hilum of the liver. The abdomen was closed with wide sump drainage. Resuscitation had required 38 units of blood, 10 units of fresh frozen plasma, and 30 units of platelets.

The patient was returned to surgery several days later and the pack was withdrawn without difficulty. Postoperative complications included deep venous thrombosis, subphrenic fluid collection, and a biliary fistula, all of which were handled nonoperatively. He was discharged on the 43rd hospital day.

Discussion

The care of the patient with major abdominal trauma has become standardized in most centers dealing with the massively injured.2 Following the patient's initial assessment, resuscitation is initiated intravenously with crystalloid solutions given through large bore needles. Patients with penetrating wounds of the abdomen or lower thorax should undergo emergency laparotomy. Victims of blunt trauma will be the more difficult to evaluate. Liver injury should be suspected with any history of blunt injury to the lower thorax or abdomen, but should be specifically searched for in patients with lower rib fractures. Significant liver injuries cause intraperitoneal bleeding and bile soilage, resulting in abdominal distention, absent bowel sounds, muscle rigidity, tenderness, dull-

From the Department of Surgery, University of Tennessee College of Medicine-Chattanooga Unit, Erlanger Medical Center, Chattanooga.

ness to percussion, and abdominal wall or flank echomoses. Patients with equivocal findings should undergo peritoneal lavage. During the evaluation, a nasogastric tube and Foley catheter should be inserted and blood obtained for initial hematocrit, white blood count, electrolytes and amylase. Urinalysis and chest x-ray are essential.

In the hypovolemic patient who fails to respond to resuscitation, operation is urgent and the blood bank should be notified to prepare large volumes of blood, fresh frozen plasma, and platelet concentrate. Broad spectrum antibiotics are given.

From the outset, an orderly progression of preoperative and operative steps is crucial. Preparation in the operating room should include the adjuncts available and useful in the care of the multiply injured. A warming blanket should be available on the operating table, to be used if spontaneous hypothermia is encountered, since hypothermia causes disturbances of both coagulation and vital organ function, especially cardiac output, adding measurably to the insult of hypovolemia.

Autotransfusion units are especially well suited for use in hepatic trauma. High volume of suction facilitates exposure and provides the patient with a ready source of volume expansion. These units reduce the demand for banked blood, which is a two-fold benefit, since the patient's already existing coagulopathy is less likely to be further complicated and there is a reduction in demand on the chronically stressed blood bank.⁵ The units cannot be used if the field is contaminated.

Military anti-shock trousers (MAST) have proven useful in hypovolemic shock, their effectiveness related to increased peripheral vascular resistance. They have particular utility in the patient with hepatic injury, since inflation of both lower extremity and abdominal bands assist in tamponade of bleeding. Hypovolemic patients who have not responded appropriately should be transported to the operating room with the MAST in place. They should not be removed until the surgical team is ready to enter the abdomen.

In the stable injured patient in whom liver injury is suspected but not clinically evident, other diagnostic measures such as radionucleatide scanning, angiography, or computed axial tomography might be indicated, but their value is questionable when compared to the deleterious effects of delay.

A long midline incision is the most versatile operative approach, allowing for the incision to be extended into the right chest or into a median sternotomy. When the abdomen is opened, rapid tamponade should be effected by applying laparotomy pads to the liver and maintaining manual tamponade for at least 10 to 15 minutes while the abdomen is searched for other bleeding points or contamination. Unclotted peritoneal blood can be autotransfused unless there is contamination. Should tamponade fail to control bleeding, Pringle's maneuver should be performed, and should that fail, aortic cross clamping at the level of the diaphragm would be the next step.

In patients who continue to bleed after tamponade and application of Pringle's maneuver, injury to the retrohepatic vena cava or hepatic veins should be suspected, and the incision should then be extended into a median sternotomy for better exposure and vascular isolation. Combined liver and major venous injury is highly lethal, requiring the utmost in resources and skill. Many injuries to the inferior vena cava can be managed by reflection of the lateral attachments of the right lobe of the liver and exposure of the cava, the technique used in our patient. An intracaval shunt has also been described for vascular isolation, which is useful if employed early in the operation. A modified Argyle chest catheter is threaded retrograde through the right atrial appendage into the inferior vena cava, and then the suprarenal vena cava is tightened about it with a vascular loop. This allows blood returning to the heart from the lower extremities to pass unobstructed through the injured vena cava, facilitating exposure and venous repair.5,6

Other complex injuries are of the bursting type, where jagged lacerations of the hepatic capsule and parenchyma extend deeply into the organ, with disruption of vessels, bile ducts, and parenchyma. Patients with these injuries are subject to necrosis of hepatic tissue and bile leakage in addition to hemorrhage. As in our patient, such injuries require debridement of devitilized tissue and specific ligation of bleeding points and bile ducts, the so-called resectional debridement. In most instances the wound is adequately managed by this method, though cavitating injuries require the addition of an omental pedicle graft to assist in managing the central defect.

Alternatives include packing of the hepatic wound or selective hepatic artery ligation.² The latter technique may be employed if bleeding is controlled by the Pringle maneuver. The conse-

FEBRUARY, 1985 95

quences have been slight, with few reported cases of hepatic necrosis, since the liver has excellent collateral blood supply through its supporting ligaments. The technique should not be used in the patient with preexisting liver disease. Though packing is effective, it necessitates returning the patient to surgery for removal of the pack, occasionally with catastrophic consequences. To avoid this problem, we employed a previously unreported method of tamponade to control the generalized ooze. A smaller pack, used near the superior hilum and brought out through the wound, was removed without opening the abdomen. Hepatic lobectomy for trauma, which has a mortality of 50% to 60% even when performed by experienced surgeons in trauma centers, is technically difficult in patients already suffering from hypovolemia and coagulopathy, and its use in trauma patients is therefore being discouraged.

The principal technical problem in dealing with any liver wound is that the structure and consistency of liver tissue is unsuitable for spontaneous hemostasis following parenchymal disruption.² Fortunately, the majority of hepatic wounds are simple, and can thus be handled by simple suture and drainage with associated use of broad spectrum antibiotics.

Controversy surrounds the treatment of the 10% of hepatic wounds of the bursting, cavitary type, which are often accompanied by major vascular injury or injury to other major organs; and they carry a 40% to 60% mortality rate and sometimes require innovative techniques of management.

The postoperative care of patients with liver injuries is crucial. Major problems include the continued oozing of blood, serum, or bile from the area of injury, drainage of which is essential and must be dependent, utilizing sump catheters. After major injury, drainage through the 12th rib bed is advisable.

Transaminase elevation can be expected, and some degree of hyperbilirubinemia usually follows major liver injury, demanding an ample nutritional substrate initially with a solution of 10% dextrose in water. The injured liver also fails to synthesize adequate quantities of albumin and essential plasma proteins, and these must be provided by albumin infusions or total parenteral nutrition. Glucagon is known to enhance hepatic blood flow and may be of value in cases of major resection.

Other standard techniques of intensive trauma care would include ventilatory support, invasive monitoring, gastric intubation and serial monitoring of blood counts and chemistries.

Reexploration may be necessary for control of continuing bleeding as well as evacuation of subphrenic or subhepatic collections of fluid or bile. Persistence in the pursuit of bleeding is an essential concept in successful hepatic surgery for trauma.⁴

Late complications of liver injury include sepsis from intraabdominal contamination and multi-system organ failure.

REFERENCES

- 1. Trunkey DD, et al: Management of liver trauma in 811 consecutive cases. Ann Surg 179:722-728, 1979.
- Flint LM, et al: Selectivity in the management of hepatic trauma. Ann Surg 185:613-618, 1977.
- 3. Elderling S, et al: Fatal hepatic hemorrhage after trauma. Am J Surg 138:883-888, 1979.
- 4. Walt A: The mythology of hepatic trauma or Babel revisited. Am J Surg 135:12-18, 1978.
- Schrock T, et al: Management of blunt trauma to the liver and hepatic veins. Arch Surg 112:157, 1977.
 Burns RP, et al: Massive venous injuries associated with penetrating wounds
- Burns RP, et al: Massive venous injuries associated with penetrating wounds of the liver. J Trauma 15:757, 1975.

Communication Through the Record

J. Kelley Avery, M.D.

Case Report

A 10-year-old boy was admitted to the hospital with a spiral fracture of the femur sustained during a football game. The day after admission he was placed in balanced traction, holding the fracture in good position. His admitting orthopedic surgeon, Dr. Green, suggested to the patient's mother the possibility of placing her son in a "cast-brace" in order to decrease his hospitalization time. The mother agreed and the "cast-brace," which extended from the groin to the ankle, was applied on July 17, 1982, two weeks after the initial injury.

The evening of the cast application, the patient complained of pain in the leg, which was treated with narcotics. Following an examination, the resident noted "neurovascular status intact." The following morning, July 18, Dr. Green examined the patient and noted, "refuses to move toes for fear of pain. Neurovascular status intact. Cast bi-valved to

the skin from groin to knee."

Dr. Range, an associate of Dr. Green, examined the patient on July 19, as this was Dr. Green's day off. The patient was continuing to complain of pain below the knee requiring periodic narcotic medication. Dr. Range's note stated, "cast spread over thigh-circulation okay-no motor function. Opposite this progress note was an order to "spread cast over thigh." At 4 p.m. on the same day, some six hours after Dr. Range had seen the patient, the nurse noted that the cast seemed to be too tight around the ankle and that there was a "blister" at the upper margin of the cast on the anterior aspect of the thigh near the groin. Two hours later, 6 p.m., Dr. Smith, an orthopedic resident, was called to check the patient relative to his complaints of pain below the knee. He observed Dr. Range's note, "no motor function" and was unsure about what was meant, but he decided not to call Dr. Range. On examination, he found some pain with toe motion, but noted that the capillary refill was good. He did not write a progress note, nor did he describe the pulses verbally at that time. Dr. Smith marked the cast to be trimmed in the area where the "blister" had been noted. Two and one-half hours later, the nurse reported that the patient complained of pain over the lateral aspect of the upper calf and she called the resident, Dr. Smith, to see the patient again. No progress note was made by the resident, but he ordered the cast to be trimmed further. The nurse again noted a "blister" in the area where the cast had been trimmed. The patient appar-

At 8 o'clock the following morning the nurse noted that the cast appeared tighter around its lower margin and the patient complained of pain in his calf on movement of his toes. About 10 a.m. Dr. Green saw the patient, found the increased pain over the tibia, some decreased sensation, and considerable pain on passive motion of the foot, both on dorsiflexion and plantar flexion. He diagnosed tri-compartment syndrome and immediately took the patient to surgery for a decompression fasciotomy. In surgery, after the cast was re-

ently got some relief and slept for about six hours.

Dr. Avery is medical director of State Volunteer Mutual Insurance Company.

moved, no dorsalis pedis or posterior tibial pulses were palpable and there was decreased sensation over the course of the common peroneal nerve. At surgery, approximately one-third of the calf muscle was devitalized and had to be removed. Following the fasciotomy, pulses returned and the patient began to move his toes slightly. Gradually the patient regained the full range of motion in his hips and knees and was left with only a 5° equinus contracture. He had a smaller calf and 1 cm shortening of the leg on the affected side.

Suit was brought charging the attending orthopedic surgeon, his partner, and the resident with deviating from a reasonable standard of care due to their failure to diagnose the

compartment syndrome earlier.

The plaintiff had no trouble finding expert testimony stating that the care of this patient fell below an acceptable standard in many areas: (1) With the patient complaining of pain in his leg, the notes stating "neurovascular status intact" were inadequate, since there was no description of pulses, temperature of leg, motion, sensation, etc. Capillary refill, which was described, was said to be unreliable in determining vascular status. (2) With continued pain below the knee, the bi-valving of the cast only over the thigh was inadequate treatment. (3) The meaning of Dr. Range's note "no motor function" was never quite clear, and indeed if there was no motor function, the cast should have been removed immediately and circulation should have been more carefully observed. (4) Dr. Smith did not call Dr. Range to determine what was meant by "no motor function." His own examinations at that time and at a subsequent visit were not documented. (5) The testimony of the resident physician, Dr. Smith, was confusing and inconsistent, because he relied solely on his memory. Experts stated that his care was below the standard, both in his approach to the complaints and in his failure to document his findings.

Loss Prevention Comments

Three physicians were intimately involved in the care of this young patient. In this situation, progress notes were not detailed enough to adequately describe the condition found and the treatment given, and therefore no one involved in the patient's care was properly informed. Both the resident and the attending's associate were below the standard in this regard.

Compartment syndrome is such a devastating complication that it should be very aggressively managed. Any reasonable suspicion of this complication should certainly call for the removal of the cast and meticulous observation of the involved extremity.

Communication between the physicians was extremely poor, thus the opportunity to intervene early in this serious complication was missed and patient injury occurred. There was negligence on the part of all those doctors, and a sizable payment resulted.

FEBRUARY, 1985 97

JAMES H. MONTGOMERY, M.D. and STEPHEN L. GAMMILL, M.D.

A 55-year-old white man with a five-year history of dysphagia comes in with foul breath and pneumonia. No predominant organism is grown on sputum culture.

Please examine Figs. 1 and 2 and choose the best diagnosis:

- (1) Actinomycosis
- (2) Achalasia
- (3) Diabetes
- (4) Recent ingestion of caustic material
- (5) Carcinoma of the esophagus



Figure 1. Transverse scan at the level of the clavicles. T = trachea, RL = right lung, LL = left lung, X = air filled structure, with some solid debris posteriorly.



Figure 2. Transverse scan at the level of the manubrium and the aortic arch. A = aorta, RL = right lung, LL = left lung, X = air filled structure.

(Continued on page 100)

From the Department of Radiology, Baptist Memorial Hospital, 899 Madison Ave., Memphis, TN 38146.

Immunization Survey of 24-Month-Old Children For 1984

ROBERT H. HUTCHESON, JR., M.D., MPH and HENRY WOODARD

For the second consecutive year the Immunization Program of the Department of Health and Environment has assessed the immunization status and source of immunizations of 24-month-old children in each of the 12 regions of the state. The 1984 Immunization Survey was conducted for all the May 1982 resident births. This stricter definition of the survey population (24 months of age) is more sensitive to health service improvements than was the two-year-old (24-35 months) definition used prior to 1983.

Verification of the immunization status of these 24-month-old children was obtained from actual records presented by parents and/or providers of immunizations. Parental recall without confirmation from one of these sources was not accepted. Since those children who were not located were included in the denominator but not the numerator, the percentage in these tables represents minimum estimates of the true immunization levels.

Table 1 shows that the overall percentage of children in each region who are completely immunized ranges from 41.1% to 81.4%, with a state average of 62.3%. The state average in the 1983 survey was 54.5%.

For the four metropolitan regions, the percentage of children who are completely immunized is greater among the patients of private physicians. In non-metropolitan areas, the percentage is higher for children receiving immunizations from the health departments.

Table 2 compares the effect on immunization status of four social factors recorded on birth certificates. Of these factors, the presence of siblings in the family carries the greatest risk for children not being completely immunized. Seventy-five percent of 24-month-old children with-

TABLE 1

PERCENT OF 24-MONTH-OLD CHILDREN COMPLETELY
IMMUNIZED, BY SOURCE OF IMMUNIZATIONS, TENNESSEE, 1984

	% Completely Immunized by Source				
Region	Health Dept. Only	Private Physicians Only	Overall		
First Tennessee	70.4	62.5	68.4		
East Tennessee	64.9	76.2	66.7		
Knox County	69.6	91.9	76.7		
Southeast	83.3	88.9	81.4		
Hamilton County	52.5	67.4	58.2		
Upper Cumberland	77.1	51.9	70.1		
Mid-Cumberland	64.8	48.1	52.4		
Davidson County	62.5	71.1	66.4		
South Central	74.5	78.1	72.9		
Northwest	84.8	45.5	80.6		
Southwest	86.7	42.3	74.1		
Shelby	29.5	50.7	41.1		
State (Weighted)*	64.0	60.7	62.3		

^{*}Weighted to include all births in Tennessee for May 1982.

TABLE 2

NUMBER AND PERCENTAGE OF 24-MONTH-OLD CHILDREN
WITH MOTHERS WHO HAVE POTENTIAL HIGH RISK
FACTORS AND WHO ARE COMPLETELY IMMUNIZED,
TENNESSEE, 1984

	Completely Immunized			
Potential High Risk Factor	Total	No.	%	
Age of Mother				
Less than 20 yrs.	265	175	66.0	
20 yrs. or older	1,163	773	66.5	
Race of Mother				
White	1,178	804	68.3	
Non-White	250	144	57.6	
Education Level of Mother				
Less than 10th grade	180	118	65.6	
10 or more grades	1,248	830	66.5	
Older Siblings				
None	634	477	75.2	
1 or more	794	471	59.3	
State Unweighted				
Average	1,428	948	66.4	

FEBRUARY, 1985 99

From the Tennessee Department of Health and Environment, Nashville.

out siblings were completely immunized, compared to only 59% of the children who had older siblings. This difference is highly significant.

Although Tennessee can be proud that nearly all of its school age children are legally immunized, we cannot be satisfied with only 62.3% of our 24-month-olds being completely immunized. As we begin to identify risk factors for an incomplete immunization status (older siblings in family, non-white), we must provide these families with additional outreach and follow-up services. When these children are brought to a health

provider, it is important that they be given all due immunizations. Some public and private providers are reluctant to administer DPT, OPU and MMR at the same visit, but there is no evidence that this increases the incidence or severity of reactions, and the child may not return for the immunization(s) scheduled for a future date.

If public and private health providers of Tennessee concentrate on appropriate and timely immunizations for our infants, the 1985 survey can show 75% of our 24-month-old children completely immunized.

CAT Scan of the Month . . .

(Continued from page 98)

Discussion

This patient has had dysphagia of solid food for years. His wife had urged him to see a physician about halitosis, which she noticed at about the same time the patient began complaining of dysphagia. The right pleural effusion was unrelated to the patient's underlying achalasia. The CT scan was obtained during the hospitalization to examine the subphrenic area and not as a part of the original diagnostic workup.

Achalasia is a disease of unknown etiology accompanied by infiltration by lymphocytes of Auerbach's plexuses in the esophagus.¹ In addition, there is destruction of neurons, with the vagus nerve showing electron microscopic abnormality. The onset of the disease is insidious and symptoms develop between 30 to 50 years of age, without sexual predilection.¹ Peristalsis is absent in virtually all of the esophageal body, although disorganized nonpropulsive contractions may be seen.² Manometry reveals a high pressure lower esophageal sphincter without or with incomplete

relaxation. The pharynx and upper esophageal sphincter are normal. The administration of methacholine causes painful hyperperistalsis of the esophagus, which is also seen in diffuse esophageal spasm and Chagas' disease. The distal esophagus tapers smoothly near the gastroesophageal junction. If mucosal destruction or nodularity is seen on barium examination, endoscopy and biopsy should be undertaken to differentiate achalasia from neoplasia.^{3,4} Esophageal dilation usually provides temporary relief from symptoms, and myotomy of the lower esophageal sphincter should correct the obstruction.

FINAL DIAGNOSIS: Achalasia.

REFERENCES

- 1. Ellis FH, Olsen AM: Achalasia of the Esophagus. Philadelphia, W. B. Saunders, 1969.
- 2. Reid DP, et al: Achalasia: a reappraisal of manometric and radiographic features (abstract). Gastroenterology 62:797, 1972.
- features (abstract). Gastroenterology 62:797, 1972.

 3. Lawson TL, Dodds WJ: Infiltrating carcinoma simulating achalasia. Gastrointest Radiol 1:245, 1977.
- 4. Tucker HJ, Snape WJ, Cohen S: Achalasia secondary to carcinoma: manometric and clinical features. *Ann Intern Med* 89:315, 1978.

president's page



THOMAS K. BALLARD

The Select Committee

In May 1984, I was appointed to the Governor's Select Committee on Health Care Cost Containment. This committee was charged with the development of legislative and administrative strategies designed to slow the increase in the cost of health care services. This committee was appointed by Gov. Lamar Alexander, and was charged with having a report ready for the legislature in January 1985. The scope of the charge which Gov. Alexander gave to this committee was quite broad, and the committee felt that input from any interested citizen, or organization, would be valuable. After the initial committee meeting, public forums were held in six areas of the state. Everyone interested in health care cost containment was privileged to present his ideas as to how we as citizens of Tennessee could bring about a satisfactory solution to the ever-increasing costs of health care. The Select Committee was ably chaired by Dr. Eugene Fowinkle. After the public forums were held, the staff sifted through the many ideas, and then the Select Committee in many meetings finalized a report which was presented to the governor in December 1984. The Select Committee was chosen from a broad

spectrum of individuals; however, only two physicians were on this committee. These were dedicated and knowledgeable individuals from a wide variety of backgrounds who should be applauded for the work they accomplished.

Thirty-one recommendations came from this committee, and it is my hope that Gov. Alexander, and the General Assembly, will respond with legislative or regulative changes to help contain the costs of health care. This committee took into consideration that the primary objective would be to retain quality care for Tennesseans. I would like to comment on several items contained in the Select Committee Report.

One of the most important parts of this committee's discussion concerned financing of health care for the medically indigent. The care of these people, both in the physician's office and in the hospital, places a great burden squarely on the shoulders of those involved. After due consideration it was the opinion of this committee that indigent health care should be financed through some type of general revenue tax. It was felt that indigent health care is a societal responsibility which touches all Tennesseans. What type of tax would depend upon our legislature.

Two controversial recommendations were made by the committee in the interest of public safety. One was the mandatory use of seat belts, and the other a ban on smoking in public places. The committee recommended both of these items.

Another item which drew much attention was possible modification of medical malpractice laws in Tennessee. Defensive medicine brought a good deal of discussion. Qualifications for expert witnesses as determined by the courts was given a great deal of attention. A certificate of readiness which would minimize non-meritorious claims was recommended. Vaccine-related injuries were discussed, and the committee favored laws to specify that providers following protocol would be free from liability for injuries resulting from the use of vaccines.

It was recommended that provider payment structures for the Tennessee Medicaid Program be altered in order to reduce utilization of health care services.

Wellness and healthy lifestyle came under scrutiny. The committee felt that educating the public in prevention of disease processes was of importance. Educative efforts should be instituted in our public schools and institutions of higher learning to bring about a healthier lifestyle in the future.

One thing that this committee did not take into consideration, however of great importance, is the fact that 50% of the cost of health care within the United States can be chalked up to inflation.

It will be interesting to see what Gov. Alexander does with the recommendations and how the legislature responds.

James 16 Ballook in O

journal of the tennessee medical association

PUBLISHED MONTHLY

DEVOTED TO THE INTERESTS OF THE MEDICAL PROFESSION OF TENNESSEE

OFFICE OF PUBLICATION: 112 LOUISE AVENUE, NASHVILLE, TN 37203

JOHN B. THOMISON, M.D., EDITOR

ADDISON B. SCOVILLE, JR., M.D., ASSOCIATE EDITOR

JEAN WISHNICK, MANAGING EDITOR

Acceptance for mailing at special rate of postage provided for in Section 1103, Act of October 3, 1917, authorized July 15, 1932.

Copyright for protection against republication. Journals of the American Medical Association and of other state medical associations may feel free to quote from this Journal whenever they desire merely giving credit to this publication.

Address papers, discussions and scientific matter to: John B. Thomison, M.D., Editor, P.O. Box 70, Nashville, TN 37202

Address organizational matters to L. Hadley Williams, Executive Director, 112 Louise Avenue, Nashville, TN 37203

COMMITTEE ON SCIENTIFIC AFFAIRS

OSCAR M. McCALLUM, M.D., Chairman, Henderson SIDNEY L. BICKNELL, M.D., Jackson WINSTON P. CAINE, M.D., Chattanooga CLAUDE H. CROCKETT, JR., M.D., Bristol FRANCIS W. GLUCK, JR., M.D., Nashville JOHN B. THOMISON, M.D., Nashville, Ex-Officio

FEBRUARY, 1985

editorials

Son of Pizroe

When peer review in medicine was introduced by government fiat as government policy (as distinct from the peer review that has always existed), the organizations it engendered (PSROs) set about writing a manual that would, it was said, ensure quality medical care (they did not specify what sort of quality) for recipients of federal largesse. There were loud and vehement disclaimers asserting that this would not lead to "cookbook" medicine, just as there were denials that it really had to do not with quality of medical care, but with quantity—i.e., utilization. Audit committees were required of hospital staffs to monitor the quality of medical practice in the institution, and, less obtrusively but more significantly, utilization review committees were also established. Guess which survived.

With the advent of the first Reagan administration four years ago the PSRO (or Pizroe, as our late departed colleague Tom Dorrity was wont to call it) Act appeared to be on its deathbed. Like the Phoenix, though, it arose from its ashes, and what survived was the PRO, except for the dropped letter changed little from the old Pizroe. You will recall that Tennessee had two PSROs, one encompassing the middle and east sections of the state, and the other the west. You may also recall that the eastern sibling died an unnatural death when its director departed under a cloud, accused of malfeasance and misappropriation of funds, and its board of complicity, even though unwitting. As the surviving spouse (so to speak), the Mid-South Foundation for Medical Care, Inc. was accepted as Tennessee's sole PRO, before which we peons must do obeis-

I have on my desk a copy of a work entitled Pre-Admission Review Handbook for Physicians, issued by the PRO, which tells you for what reasons your patients may be admitted to the hospital, and how you should go about establishing whether or not they have something that the PRO will allow them to be admitted for. As the manual's introduction points out, the PRO deals only with Medicare patients, but other third party carriers are turning increasingly to the manual for allowing claims. The loudly disclaimed cookbook is alive and well and living (among other places) in Memphis, with tentacles reaching into your hospital, your office, your pocket, and last but not least—in fact, most distressing—into your brain.

Now that the pretense has disappeared that the PRO has anything to do with quality assurance, we can deal with the situation much more honestly. The foreword to the handbook is a fairly straightforward presentation. It points to the economic necessity for utilization and cost containment (their statutorily mandated responsibility) tempered with concern for quality of care

(both of them our moral responsibility). Deserved or not, it is the perception by much of the public that we have not exercised responsibility in either area, and that has brought on this governmental tinkering in what used to be our exclusive affairs, but which by edict are not anymore. I will not go so far as to say we brought it on ourselves, but we certainly did not do much to head it off—little positive, at least.

The system is shot full of holes, some of which will heal quickly and some slowly; some likely never will, as they doubtless have a budgetary basis. Human nature being what it is, there is widespread interest in fixing blame. Since "the government" is such a diffuse entity, we need something more tangible—someone, specifically. Who better than the Foundation's board? They are bound to be renegades, else they would not be working for the government, would they? In fact, they are not working for the government. They are working for you—hard, and without pay. One of them is your (TMA's) elected president. Without them there would be no foundation; without the Foundation there would be no PRO, right? Wrong. Without the Foundation there would still be a PRO, run by some third party carrier group, or the THA, or some such, who would love to do it. Would you like that?

This has been a quick, reasonably accurate summary of the status quo, defined by some wag as the fix we is in. Unless you and our colleagues nationally can persuade the Congress to change the law, we are stuck with PROs, just as we are with DRGs, which the PROs aid and abet. We likely have the most friendly PRO possible. At least it is in the hands of our colleagues, who after all must live with it, too. According to the well-worn cliché, it's a dirty job and someone has to do it. You (if the shoe fits) should therefore get off their backs and give them your support.

J.B.T.

Colors

From a garret window on Baker Street the plaintive strains of a violin float gently over the London rooftops, announcing that the great detective is pondering his latest case, having shot up his mind expander despite the warnings of Dr. Watson, his admiring friend and physician, that

he is wrecking his health. Though there is no evidence that cocaine, unlike the opium alkaloids, produces a cellular dependence, conferring as it does neither withdrawal symptoms nor stigmata, psychological dependence upon the drug is overwhelming. Like Sherlock Holmes, its users have found that it infuses their widely varied activities with a superhuman quality. This is not so bad for a detective, provided he confines it to his deductive activities, since outside his own digs it could get him killed; entertainers, too, find it adds zest to their image. On the other hand, on the floor of the New York Stock Exchange high flyers can quickly be reduced to low fliers, as can 747s with a snowbird in the cockpit. Though the cocaine addict may be the last to know it, what you see is not necessarily—not usually—what you get, Mr. Holmes to the contrary notwithstanding.

One of the hot—and presently dying—shows on TV this semester is—has been—a CBS series starring Mickey Spillane's tough dick, Mike Hammer. To CBS's dismay, Mr. Hammer is himself in the pokey, and with only a few episodes in the can, the series is on the rocks. Understandably distraught when Mr. Hammer's reallife counterpart, Stacey Keach, got caught smuggling cocaine into England, CBS did their best to spring their golden goose, pleading that no less had been done for such other eminent personages as, for example, the Beatles. The English court, however, was unyielding, and Mr. Hammer remains in the slammer.

Having only a passing interest in either Mike Hammer or CBS's ratings, I'm unclear as to the details, but they are unimportant to this piece. What is important is the contention of CBS that the English court should overlook Mr. Keach's peccadillo just as it did, or perhaps because it did, the Beatles'. (I am uncertain as to whether it did, in fact, do that for the Beatles, but that too is beside the point.) Like the Beatles, Stacey Keach is a true artist. He is a well-educated, thoroughly trained classical actor who has done Shakespeare and has taught at Yale. He is of the sort that turns to cocaine—the bright, talented individual who wishes to seem even better than he is. As one cocaine user put it, "I felt I was ten feet tall and could do anything. . . . Everything was bright and exciting. Anything was possible, the world was wonderful, and I was invulnerable." What cocaine does is destroy judgment and morals.

Maybe the best reason for *not* granting clemency to Mr. Keach is that it was done for the

FEBRUARY, 1985

Beatles. Creative geniuses and talented performers that they were, they captured the imagination of the youth worldwide, and became one of the principal instigators and promoters of the drug culture that has plagued this nation ever since. Perhaps that was a major consideration of the court in sentencing Mr. Keach to a jail term. Mr. Keach's co-star is incensed that Mr. Keach is being made, as she says, an example.

Youth needs clear signals. If cocaine is dangerous and illegal, it is just as dangerous and illegal for Mr. Keach and his environment as it is for the kid in Harlem or the Soho and theirs. In pressing for special treatment for Mr. Keach, CBS did in fact give one clear signal. It was that CBS assigns their own financial interests higher priority than the welfare of the community, exercising just the sort of social responsibility one has come to associate with the industry and the media in general. Their credibility suffers from the inconsistency of such maneuvering with their accustomed ostentatious posturing of liberal beneficence, filled with brotherly love and concern for the masses. Color them green.

As for Mike Hammer, color him blue and his face red. Color his co-star purple. And the kids—well, color them confused.

J.B.T.



Listening to Your Patients

To the Editor:

"China Experience" by Thomas Fite Paine, Jr., M.D., and "Desiderata Revisited," adapted by John D. Pigott, Jr., M.D. for young physicians (*J Tenn Med Assoc* 77:594, 596, Oct 1984) have stirred me to make a few comments.

Pigott noted "... Listen to others ... especially listen to your patients." I could preach a one-hour sermon on that text. Having practiced medicine for al-

most 40 years, I find that much of what I know today is based on knowledge gained from carefully listening to patients, some of whom may have been "dull and ignorant."

In 1956, I heard, with initial skepticism, the mother of a 12-year-old child tell me that when she removed milk from her son's diet, his headache, fatigue, and irritability disappeared. So I began to look for other food-sensitive children in my practice. Within ten months, I found 23 similar youngsters. I reported my clinical findings at the annual meeting of the American Academy of Pediatrics in 1958 and I published my findings on 50 such children in *Pediatrics* in 1961. Included in this report was the first double-blind study carried out on non-reaginic food allergy.

Since that time, I've seen thousands of other children (and adults) whose health problems improved, sometimes to what the parents or patient called "a miraculous" degree, when a food—often a favorite—was taken out of the diet. Yet even today many physicians look with disdain on the reports of their patients who describe food-related symptoms because "double-blind"

studies haven't been carried out.

In 1979, I learned quite by chance, from listening to a patient and another physician, of the clinical observations of C. Orian Truss, M.D., a Birmingham, Alabama internist, on the relationship of Candida albicans to a wide variety of human illnesses. Truss noted that many of his chronically ill patients, especially those who gave a history of receiving multiple courses of broad-spectrum antibiotic drugs, birth control pills or corticosteroids, would improve on a simple program of therapy designed to lessen candida colonization in the gastrointestinal tract. Symptoms in such patients were widespread and diffuse, but appeared to affect especially the nervous system, the endocrine system, and the digestive system. Many patients, however, were "sick all over" and suffered from such diverse disorders as psoriasis, multiple sclerosis, Crohn's disease, recurrent ear disorders, and autism.

Truss has presented his clinical data in a series of three articles²⁻⁴ in a non-refereed journal and in a fourth article⁵ has described scientific studies on 24 patients with chronic candidiasis. *All patients showed measurable abnormalities in both fatty acids and amino acids*. Moreover, subsequent studies showed a return of these abnormalities to normal following therapy. Antifungal therapy was also effective in partially or completely helping the patients conquer their chronic illnesses. Several recent reports have supported the Truss hypothesis and have described improvement in patients with symptoms ranging from psoriasis^{6,7} to intractable halitosis⁸ following therapy with oral nystatin and, in some instances, a special diet.

Dr. Paine stated that he was "impressed by the Chinese physicians' kindness toward, and rapport with, their patients" Obviously, therefore, the Chinese doctors listen to the things their patients tell them, even though the patients haven't carried out the double-blind studies to document their personal observations.

I was also interested in Paine's comment that "several members of our group came loaded to lecture on AIDS. They were never asked to do so," since AIDS was "not likely to become a problem in China." I should like to speculate a bit on why this might be so.

Truss recently speculated that "Candida albicans seems to be at least one agent capable of at least a depressing, and perhaps a destructive, effect on the immune system. Until the cause of the AIDS problem is uncovered, any approach would seem to be worth con-

sidering in a situation of such urgency."9

We've been loading Americans with broad-spectrum antibiotics for over 30 years. I wrote thousands of prescriptions for tetracycline and other broadspectrum antibiotics during the 1950s and 1960s. Some of these antibiotics, including chloramphenicol, certainly saved the lives of patients with otherwise incurable infections caused by Gram-negative organisms, but I'm wondering if these same antibiotics, which have been so frequently, and even promiscuously, prescribed are causing C. albicans to proliferate in the gut; could they not play a part in causing AIDS? What's more, might not candida toxins, by affecting the endocrine system, contribute to the American "epidemic" of homosexuality?

Some 20 years ago at a postgraduate seminar at the Massachusetts General Hospital Dr. David Rutstein made a plea for both clinical and laboratory research by open-minded people who would look at, listen to, and track down every fragment of data, including anecdotal data from nonscientists.

The advances in medicine during the last decade are marvelous; they save many lives and relieve suffering. It is my opinion, though, that too often physicians are forgetting to listen to their patients. Though technical skills, drugs, and surgery save many lives, as pointed out by the late Francis Peabody, "The secret of caring for the patient is caring for the patient." The scientific method in medicine is certainly important, yet, science doesn't consist mainly in double-blind studies; careful and perceptive history taking, followed by thoughtful consideration of what the patient has had to say, may be one of the most scientific steps in evaluating the patient's health problem.

As pointed out recently by E. W. Rosenberg, M.D., chairman of the Department of Dermatology, University of Tennessee, "It is very unscientific not to have

an open mind."10

William G. Crook, M.D. 681 Skyline Drive Jackson, TN 38301

REFERENCES

 Crook WG, et al: Systemic manifestations due to allergy. Report of fifty patients and a review of the literature on the subject. *Pediatrics* 27:790-799, 1961. 2. Truss CO: Tissue injury induced by Candida albicans. J Orthomol Psychia-

try 7:17-37, 1978

- 3. Truss CO: Restoration of immunologic competence to Candida albicans. J Orthomol Psychiatry 9:287-301, 1980.

 4. Truss CO: The role of Candida albicans in human illness. J Orthomol Psychiatry 10:228-238, 1981.
- 5. Truss CO: Metabolic abnormalities in patients with chronic candidiasis. The acetaldehyde hypothesis. *J Orthomol Psychiatry* 13:66-93, 1984.

6. Rosenberg EW, et al: (Letters) N Engl J Med 308:101, 1983.
7. Rosenberg EW, et al: (Letters) N Engl J Med 308:101, 1983.
8. Zwerling MH, Owens KN, Ruth NH: Think yeast—the expanding Spectrum of candidiasis. J SC Med Assoc, Sept. 1984, pp 454-456.
9. Truss CO: (Letters) J Orthomol Psychiatry 12:37, 1983.

10. Crook WG: The Yeast Connection. Jackson, Tenn, Professional Books, 1984. p xx.

The First Thanksgiving

To the Editor:

I was astonished, and as a southerner embarrassed, by your editorial "Thanksgiving, 1984" (J Tenn Med Assoc 77:680, Nov 1984). One of the myths of American history depicts the Massachusetts Bay Colony as the originator of the Thanksgiving custom. However, in the records of the Berkeley Hundred, there appears the following quote, "the day of our ships' arrival . . . shall be yearly and perpetually kept as a day of thanksgiving." This date was December 4, 1619 at the present site of Berkeley Plantations on the James River in Virginia.

> George S. Lovejoy, M.D. P.O. Box 399 Arlington, TN 38002



Harry W. Bachman, age 92. Died November 18, 1984. Graduate of University of Pennsylvania School of Medicine. Member of Sullivan-Johnson County Medical Society.

Edwin E. Miller, age 77. Died December 13, 1984. Graduate of Hahnemann Medical College. Member of Knoxville Academy of Medicine.

Frank L. Roberts, age 89. Died December 1, 1984. Graduate of University of Minnesota Medical School. Member of Memphis-Shelby County Medical Society.

new member

The JOURNAL takes this opportunity to welcome these new members to the Tennessee Medical Association.

BRADLEY COUNTY MEDICAL SOCIETY

John Besing, M.D., Cleveland Gerald K. Mazza, M.D., Cleveland

COFFEE COUNTY MEDICAL SOCIETY Joel Stanley Birdwell, M.D., Tullahoma

CONSOLIDATED MEDICAL ASSEMBLY **OF WEST TENNESSEE**

Michael Brueggeman, M.D., Jackson

LAKEWAY MEDICAL SOCIETY

Sandra Beall Tressler, M.D., Morristown

McMINN COUNTY MEDICAL SOCIETY

Robert K. Greenlaw, M.D., Athens Clyde Martin, M.D., Athens

PUTMAN COUNTY MEDICAL SOCIETY Walter Dickson Moss, III, M.D., Cookeville

ROANE-ANDERSON COUNTY MEDICAL SOCIETY

William Lawrence Molony, M.D., Oak Ridge

SULLIVAN COUNTY MEDICAL SOCIETY

James W. Clark, M.D., Church Hill Michael Jude Sullivan, M.D., Kingsport Michael K. Voth, M.D., Kingsport Ruth T. Young, M.D., Kingsport

WASHINGTON-UNICOI-JOHNSON COUNTY MEDICAL SOCIETY

James P. Craig, M.D., Johnson City Richard R. Reece, M.D., Johnson City David R. Soike, M.D., Johnson City George Ian Spence, M.D., Johnson City

personal news

William R. Lee, M.D., Copperhill, was honored with the Tennessee Hospital Association's Meritorious Service Award, in recognition of his "tireless efforts to provide quality medical care to the community regardless of a patient's ability to pay."

John B. Lynch, M.D., Nashville, has been installed as president of the Southern Medical Association.

David McConnell, M.D., Newport, has been elected vice-president of the Tennessee Academy of Family Physicians.

Henry P. Pendergrass, M.D., professor and vice chairman of the Department of Radiology at Vanderbilt Medical School, was awarded the Gold Medal of the Radiological Society of North America at its recent meeting. The Gold Medal is the highest award presented by that organization, which is the largest scientific radiology society in the world. Dr. Pendergrass' father, the late Eugene Pendergrass, M.D., who was chairman of the Department of Radiology at the University of Pennsylvania Medical School from 1936-1961, is one of the previous recipients of the medal, making them the only father-son recipients of that distinguised award.

Peter Stimpson, M.D., Lenoir City, has been named president-elect of the Tennessee Academy of Family Physicians.

Tedford S. Taylor, M.D., Elizabethton, has been inducted as a Fellow of the American Academy of Pediatrics.

TMA Members Receive AMA Physician's Recognition Award

Twenty TMA members qualified for the AMA Physician's Recognition Award during November 1984.

To qualify for the PRA, a minimum of 150 hours of continuing medical education must be earned over a three-year period; 60 of these hours must be Category 1.

This list does not include members who reside in other states. Names of additional PRA recipients will be published as they are received from AMA.

Charles R. Adcock, M.D., South Pittsburg James B. Cox, M.D., Knoxville John D. Crawford, M.D., Collierville Tommy H. Crunk, M.D., Springfield Horace B. Cupp, Jr., M.D., Johnson City Robert D. Doty, Jr., M.D., Chapmansboro James R. Feild, M.D., Memphis John B. Hackworth, Jr., M.D., South Pittsburg Ray W. Hester, M.D., Nashville

Ray W. Hester, M.D., Nashville
Herbert J. Michals, M.D., Kingsport
Fernando T. Miranda, M.D., Nashville
Thomas W. Orcutt, M.D., Nashville
Thurman L. Pedigo, M.D., McMinnville
Nathan F. Porter, M.D., Greenfield
Sudha R. Prasad, M.D., Memphis
Charles L. Roach, M.D., Sevierville
Don J. Russell, M.D., Chattanooga
Wen T. Shiao, M.D., Nashville
Joe R. Troop, Jr., M.D., McMinnville
Thomas W. Williams, M.D., Etowah

announcements

CALENDAR OF MEETINGS

NATIONAL

March 1-2 Outpatient Ophthalmic Surgery Society— Lowe's Anatole Hotel, Dallas

March 3-8 American Society for Microbiology—Convention Center, Las Vegas



OWNED AND PUBLISHED BY THE ASSOCIATION

MARCH, 1985 VOL. 78, NO. 3

Bilateral Wilms' Tumor: 18-Year Follow-Up of Patient Treated Only With Surgery

ROBERT D. PROFFITT, M.D. and JAMES N. PROFFITT, M.D.

Wilms' tumor represents 95% of the renal malignancies of early life and has equal sex distribution. It has a peak incidence at three or four years. The most common clinical manifestation is an abdominal mass.

Bilateral Wilms' tumors are somewhat rare. Scott³ in a collected series in 1955 of 906 cases of Wilms' tumor reported that 3.6% were bilateral, and Bishop⁴ reported an 8.3% bilateral occurrence in the 72 patients seen at the Childrens Hospital in Philadelphia in the 25 years preceding 1965.

Treatment of Wilms' tumor has progressed from surgery alone⁵ to surgery with postoperative radiation,⁶ and the addition of chemotherapy⁷; since 1960 most clinicians have treated Wilms' tumor with all three. The National Wilms' Tumor Study, begun in 1969, is an ongoing cooperative effort to evaluate Wilms' tumor treatment and results. D'Angio^{8,9} related details of this study and gave updates. Garret¹⁰ reported three cases of bilateral Wilms' tumor that were apparently cured following combined surgery, radiation, and chemotherapy. He also related that the National Wilms' Tumor Study has not established a protocol for management of bilateral Wilms' (group V). Johnston treated a case of bi-

lateral Wilms' tumor with surgery and chemotherapy, resulting in an apparent cure, but related later (by personal correspondence) widespread reoccurrence of the tumor. Cohen¹¹ described the use of computerized tomography (CT) in diagnosis and evaluation of treatment progress in bilateral Wilms' tumor.

Case Report

A 20-month-old girl with a four-day history of intermittent low grade fever was found in July 1965 to have a large irregular nontender left upper quadrant abdominal mass. She was admitted to the local hospital, where her blood pressure was 70/40 mm Hg, respirations 22/min, and pulse was 80/min. Development and weight were normal for age. Physical examination was normal except for the left upper quadrant abdominal mass. Urinalysis and hemogram were normal, with hemoglobin of 12 gm/100 ml. The total bilirubin was 1.1 mg/ dl and the BUN was 12. A scout film of the abdomen demonstrated a large density that appeared continuous with the left kidney. The excretory urogram revealed post-injection prompt excretion at five minutes. The right collecting system was normal, but on the left there was a dense 7-cm mass in the lower pole which displaced and distorted the collecting system superiorly and medially. The radiologic impression was left renal neoplasm, most likely a Wilms' tumor.

A chest film showed a minimal hazy infiltrate in the right lung base compatible with atypical pneumonia. The patient had no pulmonary symptoms, and a subsequent chest film 12 days later was normal.

Operative Procedure

This child had a palpable mass in the left upper quadrant of the abdomen which when palpated very lightly was found to correspond with

MARCH, 1985

Reprint requests to 611 Washington Ave., Maryville, TN 37801 (Dr. R. Proffitt).

BILATERAL WILMS' TUMOR/Proffitt

the x-ray filling defect in the upper pole of the kidney. No mass was felt on the right. She was explored through a transverse incision above the umbilicus, which exposed both kidneys. The left renal mass occupied a good portion of the kidney, and obviously no kidney tissue could be salvaged on the left side. In the upper pole of the right kidney there was a small mass measuring approximately 4 cm but not causing any distortion of the calyces. There was no evidence of metastases to the liver nor extension through the Gerota's fascia. The left renal vein was ligated prior to any manipulation, the left kidney was removed, and the left ureter was removed almost down to the bladder. A right heminephrectomy was then carried out, staying well above the renal artery and veins, with removal of approximately one-third of the right kidney, which included the tumor. No extension could be noted to any surrounding structure. Gelfoam was placed

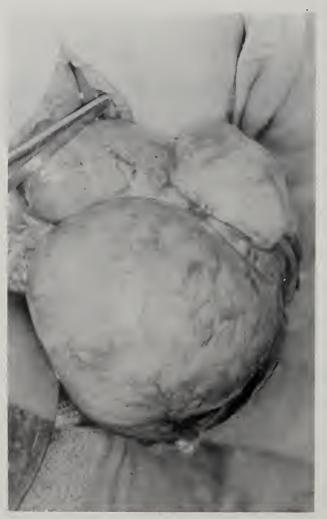


Figure 1. Wilms' tumor involving most of the left kidney.



Figure 2. Wilms' tumor of right kidney limited to upper pole.

over the cut surface of the kidney, a Penrose drain was brought out through a stab wound from each kidney bed, and closure of the abdominal wall was routine.

A search of the literature did not reveal any protocol regarding the treatment of bilateral Wilms' tumors. A conversation with Barton McSwain, M.D., then head of the Oncology Department of Vanderbilt University Hospital, resulted in our decision to defer both radiation treatment and treatment with actinomycin D, since there was no definite indication of metastases.

We were fearful of radiation or chemotherapy damaging the remaining portion of the right kidney. Postoperatively she did extremely well, and within three days was up and around with minimal complaints.

Pathology

The large irregular Wilms' tumor on the left is shown (Fig. 1) at surgery; it involved much of the kidney. On the right (Fig. 2) the tumor was



Figure 3. Posterior and anterior views of bilateral Wilms' tumors. Left kidney including tumor (below). Right excised tumor (above).

limited to the upper renal pole. The comparative size of the tumors is noted (Fig. 3) in the anterior and posterior views of the excised tumors.

Microscopically abundant embryonic connective tissue was present, with interspersed glandlike tubules. Some slides showed rosette-like arrangement of epithelial cells interspersed with abortive glomeruli. Several slides from both tumors were sent to the files of the Armed Forces Institute of Pathology.

Follow-Up

At age 3 years the patient had a two-day febrile illness; laboratory findings included marked microscopic pyuria, and the urine culture grew Escherichia coli. The white cell count was 21,500/ cu mm, with 88% polymorphonuclear leukocytes, 7% monocytes, and 5% lymphocytes. The hemoglobin was 9.8 gm/100 ml. The BUN was 34. Ampicillin was administered for five days and then she was placed on nitrofurantoin for the ensuing three years. She became afebrile within 24 hours. Repeat BUNs as an outpatient showed a gradual return to normal range in one month. At age four years the patient again had a urinary tract infection due to E. coli. The BUN of 36 slowly returned to normal within two months. Subsequent urinalyses, BUNs and creatinines have all been normal. Four excretory urograms since surgery all demonstrated good function in the remaining portion of the right kidney. The most recent urogram was in 1972 which was seven years postoperative.

The patient is now a young adult and near the median for weight and height.

Discussion

This 20-month-old girl with a bilateral Wilms' tumor was treated by left nephrectomy and right heminephrectomy. Eighteen years after surgery she is in excellent health, and assumed cured.

The decision to treat this patient with surgery alone was made for two reasons. First, there was no established protocol for management of bilateral Wilms' tumor. Secondly, the oncology consultant related recent loss of a patient with bilateral Wilms' tumor with radiation nephritis.

The rarity of bilateral Wilms' tumors results in limited treatment experience, even at large medical centers. Recent communication with oncologists suggests most would treat such a patient with radiation and chemotherapy in addition to surgery, though others expressed reluctance to use radiation in such a clinical situation with the limited remaining normal renal tissue. Perhaps this clinical dilemma will be solved and treatment protocol eventually established by the ongoing National Wilms' Tumor Study.

Acknowledgements

Photographs were supplied by Dr. Elgin Kintner, Department of Pathology, Blount Memorial Hospital, Maryville, Tenn.

Review of pathology reports was done by William R. Cowan, Colonel, USAF, MC Director, Washington, D.C.

REFERENCES

- 1. Hays DM: Urogenital tumors in children. Pediatr Ann 10:594-601, 1975. 2. Schwartz AD: Neuroblastoma and Wilms' tumor. Med Clin N Amer 61:1053-1071, 1977.
- 3. Scott LA: Bilateral Wilms' tumors. Br J Surg 42:513, 1955.
- 4. Bishop HC, Hope JW: Bilateral Wilms' tumors. J Pediatr Surg 5:476-487,
- 5. Ladd WE: Embryoma of the kidney (Wilms' tumor). Ann Surg 108:885, 1938.
- 6. Gross RE, Neuhauser EBD: Treatment of mixed tumors of the kidney in childhood. Pediatrics 6:843-852, 1950. 7. Farber S: Chemotherapy in the treatment of leukemia and Wilms' tumor.
- JAMA 198:826-838, 1966. 8. D'Angio GJ, Beckwith JB, Breslow NE, et al: Wilms' tumor: an update.
- Cancer 45:1791-1798, 1980.

 9. D'Angio GJ, Evans A, Breslow NE, et al: The treatment of Wilms' tumor. Cancer 47:2302-2311, 1981.
- 10. Garrett RA, Donohue JP: Bilateral Wilms' tumors. J Urol 20:586-588,
- 11. Cohen MD, Weber T, Smith JA, et al: The role of computerized tomography in the diagnosis and management of patient with bilateral Wilms' tumor. J Urol 130:1160-1161, 1983.

Adenocarcinoma of the Esophagus Associated With Neurofibromatosis

GNANA DESIGAN, M.D.; G. DEWEY DUNN, M.D.; and SUSAN HALTER, M.D.

Neurofibromas arise from the neural tissue of the gastrointestinal tract, and gastrointestinal involvement in neurofibromatosis may occur in up to 25% of cases of neurofibromatosis. Von Recklinghausen, in his initial report, described a patient with neurofibroma of the stomach and jejunum with malignant transformation. Leiomyomas, carcinoid tumors and various adenocarcinomas of the gastrointestinal tract have been reported in association with neurofibromatosis. In the absence of Barrett's esophagus, primary adenocarcinoma of the esophagus is extremely rare, and its association with neurofibromatosis in our patient is unique.

Case Report

A 67-year-old man with neurofibromatosis developed dysphagia for both solids and liquids. Upper gastrointestinal x-rays showed a filling defect in the distal esophagus (Fig. 1), and on endoscopy, at 34 cm from the incisors a 2-cm lesion was found (Fig. 2); the squamo-columnar epithelial junction was at 40 cm and there was no evidence of Barrett's esophagus. Retroflexed view of the cardia also did not show any lesion. Biopsies from the lesion showed adenocarcinoma of the esophagus (Figs. 3 and 4); biopsies from adjacent mucosa showed no columnar epithelium. CT scan of the chest showed soft tissue thickening of the esophageal wall 4 cm above the esophagogastric junction, without mediastinal lymphadenopathy. The patient had hypertension, but evaluation for pheochromocytoma was negative. He also had atherosclerotic heart disease and had undergone coronary artery bypass surgery.

The patient was taken to the operating room for possible resection, but the left gastric artery was pulseless and the resection was not done because the stomach could not be freed sufficiently for gastric pull-through into the chest. The arteriogram showed moderate stenosis of the origin of the celiac artery and multiple stenotic lesions in the branches of superior and inferior mesenteric arteries. The middle colic artery also had a significant lesion, preventing colon interposition, so that radiotherapy followed by chemotherapy was planned. During this period the patient developed multiple bilateral pulmonary metastases.



Figure 1. Upper gastrointestinal x-rays showing a filling defect in the distal esophagus.



Figure 2. Endoscopic view of the lesion in the distal esophagus.

From the Departments of Gastroenterology (Drs. Desigan and Dunn) and Pathology (Dr. Halter), Veterans Administration Hospital and Vanderbilt University School of Medicine, Nashville.

Reprint requests to Department of Gastroenterology, VA Medical Center, 1310 24th Ave. South, Nashville, TN 37203 (Dr. Desigan).

Discussion

Neurofibromatosis is an autosomal dominant trait with a frequency of about 1 in 3,000, and the gastrointestinal tract is commonly involved. Neurofibromas arise from the myenteric plexus rather than the submucosal nerve plexus and sarcomatous degeneration can occur.² The most common sites of involvement are the jejunum and the stomach,³ but the ileum, duodenum, colon, esophagus, pancreas, and the hepatobiliary tract may also be involved.⁴⁻⁶

Neurofibromatosis may be associated with leiomyomas⁷ and carcinoid tumors, and there seems to be a predilection for ampullary carcinoids.⁸ A case of somatostatinoma occurring as an ampullary tumor in a patient with neurofibromatosis and pheochromocytoma has also been described.⁹

Figure 3. Low power light microscopic view of esophageal biopsy specimen showing adenocarcinoma (left) and normal squamous epithelium overlying submucosal adenocarcinoma (arrow) (hematoxylineosin, × 45).

Malignant tumors of the gastrointestinal tract, including adenocarcinoma of the small bowel, colon, and pancreas, and squamous cell carcinoma of the esophagus have been reported in association with neurofibromatosis. 10-13 Pheochromocytoma may also occur with neurofibromatosis, and other malignancies including Wilm's tumor, rhabdomyosarcoma, leukemia and medullary thyroid carcinoma are excessive among patients with neurofibromatosis. 14

The intestinal neurofibromas are usually asymptomatic unless they grow larger or become malignant, causing obstruction, intussusception or hemorrhage. Constipation may occur in 10% of these cases due to dysplasia and disorganization of the tunica muscularis and Auerbach's plexus of the colon. Neurofibromas may compress the origins of the celiac and superior mesenteric arteries and cause abdominal angina. Obstruction of the pancreatic duct by neurofibromas may result in steatorrhea. Abnormal liver function tests may be caused by either a duodenal neurofibroma or a carcinoid tumor compressing the ampul-

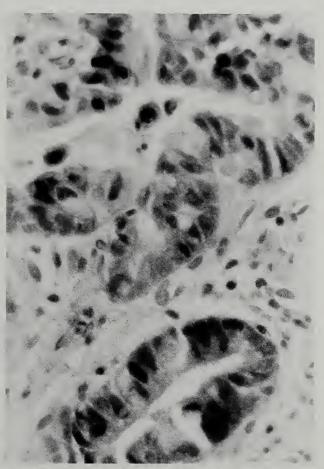


Figure 4. Light microscopic detail of adenocarcinoma. Neoplastic cells form glandular spaces (hematoxylin-eosin, × 729).

ESOPHAGEAL CARCINOMA/Desigan

la, or a malignant neurogenic tumor of the liver. Plexiform neurofibromatosis of the colon may simulate Hirschsprung's disease.¹⁸

When gastrointestinal symptoms occur in neurofibromatosis, barium studies often fail to reveal the lesions because the majority originate in the subserosal Auerbach's plexus and grow extraluminally. Arteriograms may show hypervascularity or abnormal neovascularity¹⁹; they are especially useful when there is gastrointestinal bleeding. Laparoscopy may reveal subserous neurogenic tumors, which may simulate metastases.20

Finally, it is of interest that our patient had primary adenocarcinoma of the esophagus, which is very rare. Most adenocarcinomas of the body of the esophagus arise from the columnar epithelium of the Barrett's esophagus, which our patient did not have. A rare esophageal adenocarcinoma may arise from ectopic glandular epithelial rests, usually in the upper esophagus,²¹ and exceptional cases arise from submucosal mucous glands, but they represent less than 20% of the adenocarcinomas of the esophagus.²² Adenoacanthoma is an adenocarcinoma in which squamous differentiation is histologically evident. It is a highly malignant tumor with extensive spread in the submucosa. Lymph node involvement is uncommon, and hematogenous dissemination occurs early in this disorder. Acknowledgement

The authors thank Mrs. Muriel Burnette for her clerical assistance.

REFERENCES

- 1. Davis GB, Berk RN: Intestinal neurofibromas in Von Recklinghausen's disease. Am J Gastroenterol 60:410-414, 1973
- 2. Levy D, Khatib R: Intestinal neurofibromatosis with malignant degeneration. Dis Colon Rectum 3:140-144, 1960.
- Hochberg FH, Dasilva AB, Galdabini J, et al: Gastrointestinal involve-ment in Von Recklinghausen's neurofibromatosis. Neurology 24:1144-1151, 1974.
- 4. Hoare AM, Elkington SG: Gastric lesions in generalised neurofibromatosis. Br J Surg 63:449-451, 1976.
- . Raszkowski HJ, Hufner RF: Neurofibromatosis of the colon: a unique manifestation of Von Recklinghausen's disease. Cancer 27:134-142, 1971.
- 6. Meyer GW, Friffiths WJ, Cohen L, et al: Hepatobiliary involvement in Von Recklinghausen's disease. Ann Intern Med 97:722-723, 1982
- 7. Lukash WM, Morgan R1, Sennett CO, et al: Gastrointestinal neoplasms in Von Recklinghausen's disease. Arch Surg 92:905-908, 1966.
 Hough DR, Chan A, Davidson H: Von Recklinghausen's disease associ-
- ated with gastrointestinal carcinoid tumors. Cancer 51:2206-2208, 1983
- 9. Cantor AM, Rigby CC, Beck PR, et al: Neurofibromatosis, pheochromocytoma and somatostatinoma. Br Med J 285:1618-1619, 1982 10. Nelson AM: Small bowel adenocarcinoma associated with neurofibro-
- matosis. Am J Gastroenterol 77:149-151, 1982.
- 11. Jenkins DHR, Gill W: A case of carcinoma of the colon in association with neurofibromatosis. Br J Surg 59:322-323, 1972.
- 12. Keller RT, Logan GM: Adenocarcinoma of the pancreas associated with neurofibromatosis. Cancer 39:1264-1266, 1977.
- 13. Okudaira Y, Sugimachi K, Mayumi H, et al: Esophageal carcinoma associated with neurofibromatosis—a case report. Jpn J Surg 11:189-192, 1981
- 14. Riccardi VM: Von Recklinghausen neurofibromatosis. N Engl J Med 305:1617-1626, 1981.
- 15. Devereux RB, Koblenz LW, Cipriano P, et al: Gastrointestinal hemorrhage—an unusual manifestation of neurofibromatosis. Am J Med 58:135-138.
- Cameron AJ, Pairolero PC, Stanson AW, et al: Abdominal angina and neurofibromatosis. Mayo Clin Proc 57:125-128, 1982.
 Wormsley KG, Logan WF, Sorrell VF, et al: Neurofibromatosis with
- pancreatic duct obstruction and steatorrhea. Postgrad Med J 43:432-435, 1967.
- 18. Staple TW, McAlister WH, Anderson MS: Plexiform neurofibromatosis simulating Hirschsprung's disease. Am J Radiol 91:480, 1964.
- 19. Vujic 1, Sbrocchi RD, Stanley JH, et al: Angiographic demonstration of gastrointestinal neurofibromas in Von Recklingausen's disease. Gastrointest Radiol 8:283-284, 1983,
- 20. Lindner H, Mitschke H, du Bosque G: Laparoscopic findings in generalized neurofibromatosis. *Endoscopy* 7:45-48, 1975.
- 21. Carrie A: Adenocarcinoma of the upper end of the esophagus arising from ectopic gastric cpithelium. Br J Surg 37:474, 1950.
- 22. Raphael HA, Ellis FH, Dockerty MB: Primary adenocarcinoma of the esophagus: 18 year review and review of the literature. Ann Surg 164:785-796,

APRIL 1985						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	1	2	3	4	5	6
7	8	9	10 11 12 13 TMA 150TH ANNUAL MEETING Hyatt Regency Hotel—Memphis			
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	NOTES			

The Developmental Screening and Referral Practices of Physicians In Tennessee

FRANCES P. GLASCOE, Ed.S. and ROBERT L. VanDERVOORT, JR., M.D.

Assuring that high-risk and handicapped children are referred to early diagnostic and intervention services is generally dependent upon physicians. 1 Early intervention is considered both preventive and instructional, limiting the more severe manifestations of handicapping conditions, stimulating intellectual growth, and maximizing children's potential for future independence.2 Before children are of school age, physicians are often the only professional in a position to detect developmental difficulties.3 Some research suggests that physicians are not always well trained in the use of developmental screening measures, nor are they well informed about the availability of local services. 1,3 For example, over 25% of physicians surveyed in one study indicated that they would advise parents to wait until a child was older before seeking evaluation and treatment services. Such a response is detrimental to the procurement of early intervention. That only 4% of all preschool handicapped children receive educational services is often considered due in part to minimal screening and referral by physicians.4

While these findings suggest that physicians' developmental screening and referral practices are antithetical to the tenets of early intervention theory and practice, much of the research on physicians' developmental practices is highly speculative, involving prevalence estimates, responses to hypothetical survey questions, and improvements in pediatric training. 1,3,5-9 Little research exists on the actual developmental screening and nonmedical referral practices of private physicians. Studies are needed that consider the

strengths and weaknesses of physicians' screening and referral efforts. The findings should increase interest in screening and stimulate further research on efficacious measures and methods of in-office developmental assessment.

The purpose of the following research was to evaluate the actual rather than hypothetical screening and referral efforts of physicians. The accuracy, scope, and appropriateness of these practices are considered. In order to accomplish this, two distinct studies were conducted: (1) physicians' referrals to a developmental evaluation center were compared with those of other referring groups such as medical center services, social agencies, and developmental programs, and (2) referring physicians were surveyed regarding the types of screening techniques and referral services used.

Study 1. Physicians' Referral Practices Subjects and Setting

Data on all children who received diagnostic developmental assessment at the Comprehensive Developmental Evaluation Center (CDEC) of Vanderbilt University Medical Center between 1977 and 1983 were used for statistical analysis. The 641 children were between 0 and 15 years of age; each received a psychometric evaluation, with speech and language, educational, medical, and social work assessment provided as needed. Evaluations were accomplished by a multidisciplinary team consisting of psychologists, educators, speech and language pathologists, pediatricians, and social workers. When indicated, children were identified as handicapped according to federal and state criteria contained within the Education for All Handicapped Children Act (P.L. 94-142), and in the Diagnostic and Statistical Manual of Mental Disorders. 10 Such certifica-

MARCH, 1985

From the Comprehensive Developmental Evaluation Center, Department of Pediatrics, Vanderbilt University School of Medicine, Nashville.

Reprint requests to Comprehensive Developmental Evaluation Center, Vanderbilt University Medical Center South, Nashville, TN 37232 (Frances Glascoe).

DEVELOPMENTAL SCREENING AND REFERRAL/Glascoe

tion is needed before entrance into many educational services. Certifying categories at CDEC included learning disabilities, any of the various levels of mental retardation, autism, sensory and health impairments, and physical disabilities. Children who appeared to have behavior disorders and/or emotional disturbance as a primary handicapping condition were referred to a clinical psychologist or psychiatrist for certification.

Method

Assessment results on each child were sorted by referral sources. Four distinct groups referred children to CDEC: (1) private physicians (N=195), (2) hospital and university medical center services (N=239), (3) social agencies, including public health, Department of Human Services, and mental health centers (N=81), and (4) developmental programs such as Head Start, day care centers, and infant stimulation programs (N=126).

Variables used to compare physicians' referrals to those of other referral sources included: (1) the child's age at evaluation, (2) general diagnosis, including mental retardation, other

(generally learning disabilities, and speech and language problems, and to a lesser extent autism, visual impairment, etc.) and nonhandicapped, (3) parents' level of education, (4) location of residence (urban or rural), (5) child's age when parents first noticed developmental problems, (6) previous evaluations, (7) participation in educational programs or therapy prior to diagnosis (excluding regular classroom placement), and (8) reason for referral (slow development, language/speech problems, school issues such as performance difficulties or need for placement recommendations, history of significant illness thought to affect development, and other reasons, including behavior problems and hyperactivity).

For children diagnosed as mentally retarded, additional variables were analyzed, which included (1) level of severity, and (2) observability (unusual facies, congenital anomoly, seizure disorders, and motor delays).

Results

Evaluation of the assumptions underlying multivariate techniques reveal that linearity and homoscedasticity were present sufficiently to undertake inferential analyses. Homogeneity of

TABLE 1

REFERRAL DATA ON 275 CHILDREN DIAGNOSED AS MENTALLY RETARDED

	Source				
	Physicians	Medical Centers	Developmental Programs	Social Services	
% males	54%	69%	60%	60%	1.09
Mean age (yrs)	2.9	3.0	3.5	3.4	0.678
Observability	42%	55%	33%	32%	0.997
Level of retardation					0.189
borderline	3%	7%	4%	4%	
mild	27%	23%	25%	16%	
moderate	9%	8%	18%	20%	
severe/profound	6%	13%	12%	8%	
undetermined	42%	49%	41%	52%	
Rural residence	70%	56%	57%	76%	1.970
Reason for referral					1.526
slow development	77%	63%	59%	56%	
speech problems	5%	6%	16%	16%	
school issues	9%	8%	16%	20%	
illness	3%	17%	4%	0%	
other	6%	6%	4%	8%	
Parental detection (yrs)	0.6	0.8	0.7	1.2	0.816
Past evaluations	42%	73%	54%	37%	3.232
Program participation	44%	54%	59%	44%	1.379
Fathers with H.S. diplomas	64%	56%	41%	24%	6.024
Mothers with H.S. diplomas	57%	49%	47%	24%	2.097
Total Number Referred	88	103	27	57	

^{*}P<.001

[†]P<.01

[‡]*P*<.05

variance was determined by Box's M Test. Analyses of variance were run in order to evaluate the significant differences in referral sources.¹¹ Scheffé's post hoc procedure was used to locate the source of differences.

Referrals of Children with Mental Retardation

Physicians' referrals of children diagnosed subsequently as mentally retarded did not differ from those of other sources on the basis of children's sex, age, level of retardation, observability, subtlety, or reason for referral. History of previous services was similar across groups, as was location of residence. The number of previous evaluations was significantly different across groups with medical center patients receiving more evaluations than other referrals. Fathers of mentally retarded children referred by physicians had higher levels of education than did fathers from other referral sources (F(2,274) = 6.024,P<.001), as did the mothers of physicians' referrals (F(2,274) = 2.907, P < .05). However, children's age when parents first noted problems was not significantly different across referral sources. Table 1 presents the descriptive statistics illustrating referrals of children with mental retardation.

Referrals of Children with Other Handicapping Conditions

Children who had such handicapping conditions as learning disabilities, autism, and lan-

guage problems and who were referred by physicians were significantly older than children referred from other sources (F(3,295) = 6.437,P < .001), and had participated in fewer programs prior to diagnosis (F(3,295) = 2.798, P < .05). Parental detection of children referred by physicians was later than that of other referral sources (F(3,295) = 7.962, P < .001). No differences were apparent in children's sex, reasons for referral, numbers of past developmental evaluations, or parents' level of education across referral groups. Children referred by social service agencies were more often from rural areas than other referral sources. Table 2 presents the descriptive statistics on referrals of children with handicapping conditions other than mental retardation.

Referrals of Children Without Handicapping Conditions

While only a few children were evaluated and found to be free of handicapping conditions, differences between the groups bear reporting. Again, physicians' referrals were older than those of other sources (F(3,67)=3.357, P<.05). Reasons for referral also differed, with physicians reporting more school problems than medical centers, which referred more often for follow-up after significant illness (F(3,67)=9.664, P<.0001). Child age at parental detection was higher for physicians' referrals (F(3,67)=6.131, P<.001) than for medical center referrals. No differences were found in children's sex, history of past evaluations and programs, although parents' level of

TABLE 2
REFERRAL DATA ON 298 CHILDREN WITH OTHER HANDICAPPING CONDITIONS

	Source				F
	Physicians	Medical Centers	Developmental Programs	Social Services	
% males	65%	74%	66%	62%	0.437
Mean age (yrs)	6.2	4.2	4.7	4.4	6.437
Rural residence	61%	39%	53%	79%	4.124
Reason for referral					0.879
slow development	18%	20%	28%	33%	
speech problems	11%	35%	31%	25%	
school issues	55%	18%	31%	26%	
illness	3%	24%	0%	8%	
other	8%	2%	6%	4%	
Parental detection (yrs)	3.8	1.8	0.8	1.9	7.962*
Past evaluations	30%	31%	16%	14%	2.117
Program participation	38%	43%	69%	46%	2.798
Fathers with H.S. diplomas	44%	47%	38%	25%	1.128
Mothers with H.S. diplomas	44%	41%	44%	33%	0.360
Total Number Referred	88	110	58	42	

^{*}P<.001

[†]P<.01

[‡]*P*<.05

DEVELOPMENTAL SCREENING AND REFERRAL/Glascoe

education differed considerably, with parents of medical center referrals graduating from high school with greater frequency than those of other sources (F(3,67) = 4.465, P < .01; F(3,67) = 2.793, P < .05). Table 3 presents the descriptive statistics on nonhandicapped children.

Several additional relationships were computed in an effort to better understand the results and more clearly illustrate the referral practices of private physicians. A significant relationship between diagnoses and reasons was found (F(2,637)=10.732, P<.001). Slow development was related to mental retardation. School performance problems usually resulted in diagnoses of other handicapping conditions, as did speech and language problems.

Several parent variables were also analyzed. The child's age at parental detection of a problem was highly related to age at referral (F(15,626) = 28.938, P < .001). But, parents' level of education was not related to age at parental detection. In general, fathers of children referred by physicians and medical centers had higher levels of education than fathers of children from other referral sources (F(2,639) = 10.402, P < .001), as did the mothers of these children (F(2,639) = 6.248, P < .001). Children whose mothers had graduated from high school were more likely to have received past evaluations than children whose mothers had less than a high school degree (F(2,639) = 8.752, P < .001).

Study 2. Physicians' Screening Practices Subjects and Methods

In order to better understand the screening practices underlying physicians' referrals, physicians were surveyed regarding their developmental screening and referral practices. All doctors in family practice, general practice, and pediatrics were mailed a copy of the instrument (Appendix). All practiced in Middle Tennessee, an area that is demographically diverse and encompasses both rural and urban populations. Of the 500, 40% were in family practice, 28% in general practice, and 32% were pediatricians. Sixty-one percent resided in predominately rural counties, while the remaining 39% were in exclusively urban areas.

The survey questions can be categorized into four areas of inquiry: (1) types of screening measures used, (2) frequency of delivery, (3) use

of screening results, and (4) interest in additional information on screening and services. Descriptive statistics were used to analyze results.

Results

The survey was mailed initially to all 500 physicians. The rate of return was 20%, with responses by locale paralleling the overall demographic characteristics (more rural than urban). A follow-up mailing was made to all pediatricians. Again the rate of return was 20% and was residentially representative (more pediatricians in urban than rural areas). The return was 131, with 12 unusable due to retirement from medicine or lack of pediatric patients, for a total of 119 responses. The overall rate of return was quite low (26%), and inferences should therefore be guarded. The residential representativeness of the responses, however, adds credibility to the survey results.¹²

Types of Screening Measures Used

Physicians reported using a variety of screening techniques, which may be categorized into formal measures (standardized instruments) and informal techniques (parental report, questions to parents, observation of patients). Fifty-three percent of the physicians indicated that they did not use formal measures, while 47% used formal screening tests. For those using formal tests, the Denver Developmental Screening Tests (DDST) was reported by 96%, appearing as the instrument of choice. Such sensory screening tests as the Snellen Eye Chart were used by 88% and audiometric screening by 61% of the physicians.

Informal screening measures were used with greater frequency. Specific questions to parents and observation of patients were used by 88% of the physicians. Physicians gave relatively equal weight to parental descriptions of such diverse developmental concerns as social problems (71%), academic difficulties (76%), behavior problems (76%), and language delays (76%).

Frequency of Screening

Only 29% of the physicians reported screening every patient, while 37% indicated that most patients were screened. Forty-two percent screened only some patients. For those screening most or some patients, selection criteria used to determine which patients to screen were relatively consistent across specified categories. Forty-three percent screened on the basis of observed

TABLE 3
REFERRAL DATA ON 70 CHILDREN WITHOUT HANDICAPPING CONDITIONS

	Source				F
	Physicians	Medical Centers	Developmental Programs	Social Services	
% males	67%	62%	77%	69%	0.269
Mean age (yrs)	5.1	2.4	3.0	3.9	3.357†
Rural residence	42%	57%	56%	70%	0.634
Reason for referral					9.664*
slow development	8%	5%	11%	50%	
speech problems	33%	0%	33%	0%	
school issues	42%	0%	22%	30%	
illness	0%	95%	33%	0%	
other	17%	0%	0%	20%	
Parental detection (yrs)	3.6	0.1	1.0	1.2	6.131*
Past evaluations	21%	31%	19%	15%	0.582
Program participation	17%	24%	33%	50%	1.600
Fathers with H.S. diplomas	58%	76%	33%	50%	4.465†
Mothers with H.S. diplomas	42%	71%	33%	30%	2.793‡
Total Number Referred	19	26	13	12	

^{*}P<.001

difficulty, 45% used reported problems, and 34% screened on the basis of significant illness.

Referrals and the Use of Screening Results

Responses to items (not mutually exclusive) addressing the uses of screening results were varied. When screening results suggested a problem, 45% of the physicians indicated that patients would be observed across visits. Monitoring patients by increasing visits was reported by 45%. Sixty-four percent reported informing parents of a developmental diagnosis. The ranges of diagnoses given showed a great deal of variation. Only 11% indicated that they would provide a diagnosis of autism, while 50% diagnosed developmental delay, health impairments, and physical handicaps. Further, a diagnosis of learning disabilities was given by 38% of the physicians, behavior disorders by 48%, sensory handicaps by 21%, mental retardation by 37%, and speech and language delays by 45%.

Physicians referred patients to a variety of services and programs on the basis of abnormal or suspect screening results. Eighty percent made referrals to medical specialists. Forty-three percent indicated that they made referrals to school systems, and referrals for developmental evaluations were reported by 73%. Counseling parents to work on the problem was reported by 49% and referrals to private programs were made by 49%. Most physicians made both medical and developmental referrals directly (81% and 63% respectively).

Interest in Obtaining Additional Information

Most physicians showed an interest in obtaining additional information. Fifty-nine percent were interested in information about screening techniques. Information about services was requested by 49%, as was information on counseling parents and on school laws.

Discussion

Physicians' referrals of children found to be mentally retarded were characterized by a mean age sufficiently young to ensure that such children would not miss appropriate educational opportunities. Physicians detected children whose manifestations of mental retardation were as subtle as those of other sources, suggesting some sensitivity in screening practices. Further, almost half the children referred had previous evaluations and/or educational services.

The rather commendable picture of physicians' screening and referral practices with children with mental retardation is muddied considerably in viewing physicians' referrals of children with other handicapping conditions. These referrals are characterized by a significantly high mean age and low rates of previous program participation. While it appears at first glance that for other handicapping conditions, physicians are not screening or referring early, other explanations are more likely. The significant relationship between reasons for diagnosis and referral coupled with high rates of school issues as referral rea-

[†]*P*<.01

DEVELOPMENTAL SCREENING AND REFERRAL/Glascoe

sons, suggests that physicians referred children subsequently diagnosed as learning disabled to a larger extent than did other sources. This interpretation is supported by late parental detection of a child's problems, as learning disabilities are usually not diagnosed until school age.

If physicians do indeed refer more learning disabled children than other sources, the question of referrals of children with speech and language problems remains. The proximity of a speech and language center might account for low numbers of referrals for children with such problems. A study is needed that provides a more definitive picture of physicians' referrals of children with diagnoses other than mental retardation. In addition, analysis of the total referral pattern of physicians might show the influence of physicians' referrals on developmental programs and social services (an informal survey of one infant stimulation program that we conducted demonstrated that 50% of the referrals during a oneyear period were from physicians).

Despite the limitations of this study, several conclusions can be drawn from the results. The scope of physicians' screening and referral practices is defined as age range of children referred. The high mean age at referral for handicapping conditions other than mental retardation indicates that physicians' screen well into late child-hood. The fact that physicians attend to parental reports of academic problems suggests a continuing relationship between physicians, patients, and their parents well into the school years.

The accuracy of physicians' screening and referral efforts is evidenced in several ways. The fact that reasons for referral were highly related to subsequent diagnosis suggests that when screening occurs, physicians are able to detect developmental problems with some accuracy. Limited numbers of referrals of children who were subsequently found to be nonhandicapped also suggests accuracy in screening at least for those children detected. One critical aspect of accuracy not assessed in this study is underdetection rates. Future research should consider the accuracy of physicians' screening practices from this perspective.

The appropriateness of physicians' screening and referral procedures is determined by established diagnostic practice in education and psychology. One of these practices is assessment of sensory deficits that might contribute to developmental delays. High reported rates of vision and hearing screening are thus commendable.

It is of concern that so many physicians inform parents of diagnoses on the basis of screening results. While physicians are instrumental in the diagnosis of health impairment, physical handicaps, and sensory impairments, the same is not true of other diagnoses. Certification of mental retardation and learning disabilities, for example, requires a battery of psychometric tests, including an individualized intelligence measure, an adaptive behavior scale, and often assessment of academic achievement. While screening assists in making decisions about which children need further evaluation, screening results indicate only normal, abnormal, or suspect development, and do not indicate the type or extent of any given problem.¹³ Continuing medical education on the uses of screening results is indicated.

One interesting aspect of this study is the data suggesting early detection of developmental problems by parents regardless of their level of education. While these data provide some support for the use of parental description as an informal screening technique, wholesale advocacy of such methods is not warranted for several reasons: (1) there is no standardization for such methods and underidentification and overidentification rates are not established, and (2) unsolicited parental description may not be forthcoming, as parents are not likely to bring up psychosocial concerns despite strong interest.14 Future research may address screening methods that rely exclusively on parental report. Until such instruments are standardized, developmental screning may serve as a vehicle for improving communication in the parent-physician relationship while providing physicians with critical developmental information.

In general, criticisms leveled at physicians appear less warranted than indicated by previous studies. 1,3,4 While underdetection rates were not assessed, the scope and accuracy of physicians' screening on children referred for evaluations is supported for those children referred. The need for improvement in physicians' developmental screening and referral is evident in the inappropriate use of screening results, the infrequency with which screening is conducted, and the informality of the instruments used. Further research needs to be conducted on underreferral and whether or not increased use of formal screening measures would alter detection rates. It bears reiterating that the extent to which physicians

screen and refer children for diagnostic services has tremendous impact on early intervention, long-range forecasting of service needs, state and local educational agencies' child-find efforts, and on exceptional children and their families.²

REFERENCES

- 1. Adams GL: Referral advice given by physicians. Ment Retard 20:17, 1982.
- 2. Tjossem TD: Early Intervention Strategies for High Risk Children and In- fants. Baltimore, University Park Press, 1976.
 3. Guralnick M: Pediatrics and special education. Except Child 48:297, 1982.
- 4. Fewell R: Early intervention, in Haring N (ed): Exceptional Children. New Jersey, Grune & Stratton, 1982.

 5. Michaels M: Physicians and educators: how can we communicate better?

J Sch Health 58:575, 1981.

- 6. Powers J, Healy A: Inservice training for physicians serving handicapped children. *Except Child* 48:294, 1982.
- 7. Wolraich M: Pediatric training in developmental disabilities. Ment Retard 17:133, 1979.
- 8. Guralnick M, Richardson H, Heiser K: A curricula in handicapping conditions for the pediatric resident. Except Child 48:294, 1982.
- 9. Kelly NK, Menalascino FJ: Physicians' awareness and attitude toward the retarded. Ment Retard 13:10, 1975.
- 10. Diagnostic and Statistical Manual of Mental Disorders—III. American Psychiatric Association, 1975.
- 11. Nie N, et al: Statistical Package for the Social Sciences. New York, McGraw-Hill, 1975.
- 12. Babbie ER: Survey Research Methods. Belmont, Ca, Wadsworth Publishing Co. Inc, 1973.
- 13. Frankenburg WK, Camp BW: Pediatric Screening Tests. Springfield, Ill,
- Charles C Thomas, 1975.14. Hickson GB, Altemeier WA, O'Conner S: Concerns of mothers seeking care in private pediatric offices: Opportunities for expanding services. Pediatrics

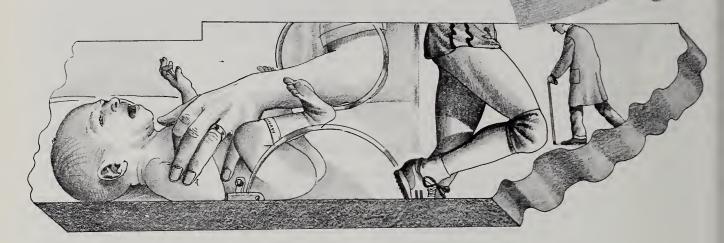
APPENDIX

SLIBVEY INSTRUMENT

SOLIVET INSTITUTION.
The following screening techniques are used in my office: Denver Developmental Scales ANSER System Snellen or other visual acuity audiological screening parent description of: medical concerns language delay speech delay behavior problems motor delay social problems academic difficulty observation of child specific questions to parents other none
Screening is conducted on:
all patients most patients selected patients on basis of: observed difficulty reported problems significant illness
If screening results suggest a problem, what occurs? — observation of patient for several visits — monitoring by increasing visits — inform parent of diagnosis—please check range of diagnoses which you give: — mental retardation — physical handicap — speech/language disorders — autism — learning disability — behavior disorder — emotionally disturbed — sensory handicap — health impairment — developmental delay — referral to medical specialist for further evaluation — counseling parent to work on problem — referral to school system — referral for developmental evaluation — referral to mental health facility — referral to private program — other
Are medical referrals made directly or via parents ?
Are non-medical referrals made directly or via parents
Are non-medical referrals made directly or via parents ?
Thank you for your time and effort with this questionnaire. Would you be
interested in
information on screening techniques?
information on community services for handicapped children?
information on counseling parents of handicapped children?
information on school laws concerning handicapped children?

MARCH, 1985 147 Roche salutes

TENNESSEE MEDICINE TODAY



Teens not immune to running injuries

Middle-aged runners are not the only ones who have to be careful to avoid injuries. A review of the records of a physician associated with the University of Tennessee College of Medicine in Chattanooga clearly indicates that adolescents are also subject to serious musculoskeletal injuries when

they run long distances.

Over a four-year period, Dr. John Paty treated 170 patients, including 19 teenagers, for problems associated with running. The 11 boys and eight girls he saw (mean age: 15.6 years) all took part in track or cross-country at their schools. The boys averaged 32 miles of training per week, while the girls averaged 12 miles, with the duration of running ranging from two weeks to two years. Over 70% of the injuries involved the knee or leg. Knee injuries were more common in boys. Despite their running longer distances, the boys had no stress fractures, but four of the girls did have this injury—three fractures of the tibia and one of the fibula. Generally, the diagnoses in the young runners were similar to those found in adults. More than two-thirds of the injuries were related to training errors: these teenagers ran too far, too fast, too soon after the start of their competitive season. Dr. Paty recommends more strengthening and stretching exercises, replacement of worn-out running shoes and a year-round graduated mileage program to prevent these kinds of injuries.1

Routine cesarean unnecessary for small "preemies"

Some obstetricians have recommended routine cesarean

section for delivery of the very small newborn. But a study of 109 singleton births at Vanderbilt University Hospital with birth weights from 500 to 1000 Gm suggests that cesarean section offers no advantage. In terms of neonatal morbidity and mortality, there was no difference between cesarean section and vaginal delivery, when labor was present and the fetus had a cephalic presentation. Unless there are maternal or fetal indications for cesarean section, vaginal delivery would seem to be a safe and appropriate procedure.²

Young women's disease in old men

Systemic lupus erythematosus (SLE) is predominantly a disease of young females. A report by Nashville rheumatologists Alan N. Baer and Theodore Pincus, however, points out that it should be considered in the elderly male with a debilitating illness. Within a 14-month period, Drs. Baer and Pincus observed five elderly men with life-threatening symptoms, including fever and weight loss, often associated with polyarthritis. The diagnosis of SLE was established only after considerable delay and extensive, costly evaluations. In four cases it was confirmed by the presence of DNA antibodies, and corticosteroid therapy was effective in three.

It was suggested that SLE should be a prominent diagnostic consideration in elderly male patients with fever and weight loss for which there is no obvious explanation.³

References: 1. Poty JG Jr, Swofford D: *J Adolesc Health Care 5*:87-90, Apr 1984: **2.** Borrett JM, Boehm FH, Voughn WK. *JAMA 250*:625-629, Aug 5, 1983. **3.** Boer AN, Pincus T: *JAMA 249*:3350-3352, Jun 24, 1983.



TODAY: FOR THE PATIENT WITH MIXED DEPRESSION AND ANXIETY

A rational approach, combining

- The standard antidepressant: amitriptyline
- The proven anxiolytic action of Librium[®] (chlordiazepoxide HCI/Roche) (N)

Marked improvement often occurs as early as the first week

Headache, insomnia or GI upsets associated with mixed depression and anxiety often respond quickly

Feeling better, patients feel encouraged to stay the course—therefore, fewer dropouts: P = .006 compared to amitriptyline*

Convenient single *h.s.* dosing sufficient in some patients; helps patients with mixed depression and anxiety sleep through the night. Patients should be cautioned about the combined effects of Limbitrol with alcohol and other CNS depressants, and about activities requiring complete mental alertness such as operating machinery or driving a car.

In moderate depression and anxiety

IN PLACE OF LIMBITROL 5-12.5 WRITE: Limbitrol® Each tablet contains 5 mg chlordiazepoxide and 12.5 mg amitriptyline (as the hydrochloride salt) WINDITROL 10-25 WRITE: Limbitrol® DS

Limbitrol® Limbitrol® Limbitrol® Limbitrol® DS

Each tablet contains 10 mg chlordiazepoxide and 25 mg amitriptyline (as the hydrochloride salt) WINDITROL 10-25 WRITE:

Easier to remember... easier to prescribe

LIMBITROL® @ Tranquilizer-Antidepressant

Before prescribing, please consult complete product information, a summary of

Indications: Relief of moderate to severe depression associated with moderate to

Contraindications: Known hypersensitivity to benzadiazepines or tricyclic antidepressants. Da nat use with monaamine oxidase (MAO) inhibitors ar within 14 days fallawing discontinuation of MAO inhibitars since hyperpyretic crises, severe convulsions and deaths have accurred with cancamitant use; then initiate cautiously, gradually increasing dasage until optimal respanse is achieved. Contraindicated during acute recovery

phase fallowing myacardial infarction.

Warnings: Use with great care in patients with history of urinary retention or angle-clasure glaucama. Severe canstipation may accur in patients taking tricyclic antidepressants and anticholinergic-type drugs. Clasely supervise cardiavascular patients. (Arrhythmias, sinus tachycardia and pralangatian af canduction time reparted with use of tricyclic antidepressants, especially high doses. Myacardial infarction and stroke reparted with use of this class of drugs.) Cautian patients about passible cambined effects with alcohol and other CNS depressants and against hazardaus accupatians requiring complete mental alertness (e.g., aperating machinery, driving).

*Usage in Pregnancy: Use of minor tranquilizers during the first trimester.

should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they

intend to or do become pregnant.

Since physical and psychological dependence to chlordiazepoxide have been reported rarely, use caution in administering Limbitral to addiction-prane individuals at those who might increase dosage; withdrawal symptoms following discontinuation of either campanent alane have been reported (nausea, headache and malaise far amitriptyline; symptoms [including convulsions] similar to those of barbiturate withdrawal for chlordiazepaxide).

Precautions: Use with cautian in patients with a history of seizures, in hyperthyraid patients ar those on thyroid medication, and in patients with impaired renal or hepatic function. Because of the passibility of suicide in depressed patients, do not permit easy access to large quantities in these patients. Periodic liver function tests and blaod counts are recammended during prolonged treatment. Amitriptyline campanent may block action of guanethidine ar similar antihypertensives. Cancamitant use with other psychotropic drugs has not been evoluated; seadalive effects may be additive. Discontinuous and the patients are proposed to the patients are patients are proposed to the patients are patients. psycholiapic drugs has not been evaluated; security enects may be adultive. Discontinue several days befare surgery. Limit concomitant administration of ECT to essential freatment. See Warnings far precautions about pregnancy. Limbitrol should not be taken during the nursing period. Not recommended in children under 12. In the elderly and debilitated, limit to smallest effective dasage to preclude ataxia, oversedation,

and debilitated, limit to smollest effective dasage to preclude ataxia, oversedation, canfusion or anticholinergic effects.

Adverse Reactions: Most frequently reparted are thase associated with either campanent alone: drawsiness, dry mouth, constipation, blurred visian, dizziness and blaoting. Less frequently accurring reactions include vivid dreams, impatence, tremar, canfusian and nasal cangestian. Many depressive symptoms including anarexia, fotigue, weakness, restlessness and lethargy have been reparted as side effects of bath Limbitral and amitriphyline. Granulacytapenia, jaundice and hepatic dysfunction have been abserved rarely. been abserved rarely.

The fallowing list includes adverse reactions not reported with Limbitral but requiring consideration because they have been reported with one or both components or clasely related drugs:

Cardiovascular: Hypotensian, hypertensian, tachycardia, palpitatians, myacardial infarctian, arrhythmias, heart black, stroke.

Psychiatric: Eupharia, apprehensian, poar cancentratian, delusians, hallucinatians,

hypomania and increased or decreased libida.

Neurologic: Incaardinatian, ataxia, numbness, tingling and paresthesias of the extremities, extrapyramidal symptams, syncope, chonges in EEG patterns.

Anticholinergic: Disturbance of accammadation, paralytic ileus, urinary retention, dila-

tatian of urinary tract.

Allergic: Skin rash, urticaria, phatasensitizatian, edema af face and tangue, pruritus. Hematologia: Bane marraw depression including agranulocytosis, eosinophilia, purpura, thrambacytapenia.

Gastrointestinal: Nausea, epigastric distress, vamiting, anorexia, stamatitis, peculiar taste, diarrhea, black tangue.

Endocrine: Testicular swelling and gynecamastia in the male, breast enlargement, galactorrhea and minar menstrual irregularities in the female, elevation and lawering af blaad sugar levels, and syndrame af inapprapriate ADH (antidiuretic harmane) secretion

Other: Heodache, weight gain ar loss, increased perspiration, urinary frequency, mydriosis, jaundice, alopecia, paratid swelling.

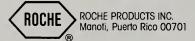
Overdosage: Immediately hospitalize patient suspected of having taken an averdase. Treatment is symptomatic and suppartive. I.V. administration of 1 to 3 mg physostigmine salicylate has been reparted to reverse the symptoms of amitriptyline paisaning. See complete product information for manifestation and treatment response. Peduce to

Dosage: Individualize accarding to symptom severity and patient response. Reduce to smallest effective dosage when satisfactory response is obtained. Larger portion of daily dose may be taken at bedtime. Single h.s. dose may suffice for some patients. Lower dosages are recommended for the elderly.

Limbitrol DS (double strength) Tablets, initial dosage of three or four tablets daily in divided doses, increased up to six tablets or decreased to two tablets doily os required. Limbitrol Toblets, initial dosage of three or four tablets doily in divided doses, for potients who do not talerate higher doses.

How Supplied: Double strength (DS) Tablets, white, film-coated, each containing 10 mg chlordiazepoxide and 25 mg amitriplyline (as the hydrochloride sall), and Tablets blue, film-coated, each containing 5 mg chlordiazepoxide and 125 mg.

Tablets, blue, film-coated, each containing 5 mg chlordiazepoxide and 12.5 mg omitriptyline (as the hydrochloride solf)—bottles of 100 and 500; Tel-E-Dose® pockages of 100; Prescription Paks of 50.



Professional INSTALLMENT LOANS

Decision In 24 to 48 Hours!

Same-Day Answer to Applications Received By Express Mail

- Deal Directly With Lender
- Deferred Payment Plans
- No Prepayment Penalty
- No Restriction on Use of Funds For:

Investments Payment of Taxes **Debt Consolidation** Tax Shelters Pension Plan Contributions

Ask for Tom Todd

CALL TOLL FREE: 800-423-5025

Serving The Medical Profession Since 1966

WOODSIDE CAPITAL

National Headquarters Woodside Capital Building 21424 Ventura Boulevard Woodland Hills, California 91364

Enough is Enough

JOSEPH F. BOYLE, M.D. President—American Medical Association

It hardly seems possible that nearly six months have elapsed since my installation as your President. Yet in that time a number of major events have transpired—America won and wept at the Olympic games, the country reelected a President after a campaign of political "firsts," Congress chose to renege on its health care contract to old people and a majority of physicians chose professional ethics over monetary gain. Yes, these were a few of the events and the ones I want to discuss with you today.

The 1984 Olympic games were held in a most outstanding of American cities—with none of the predicted chaos, calamity or confusion—privately financed and directed and with enormous profits. They gave us brilliantly staged opening and closing ceremonies and the outstanding performance of our athletes. The games provoked an outpouring of pride in the USA—patriotism has become fashionable again.

The medical community in Los Angeles also turned in an outstanding performance—so good a job, in fact, that the news was that there was no news at all. The closest we came to a "medical" event occurred in the last 600 meters of the women's marathon when for an agonizing five or six minutes a courageous athlete from Switzerland, her face fixed in a grotesque though determined grimace, crab-walked her way around the Los Angeles Coliseum track and finished in the first ever women's Olympic marathon run. And while "experts" in the television booth diagnosed and opined that she might suffer permanent brain damage from heat stroke, medical experts jogging alongside of her and correctly noting that she evidenced only normal physiologic responses to heavy physical exertion, allowed her to finish the race—a memory she will retain for life. Within a few hours, these sports-medicine specialists had her back in her quarters holding a press conference.

In an nearby arena, another point of medical significance was underscored. In Olympic boxing competition a knockdown counts as much as a light clean tap on the forehead—a point entoned repeatedly by Howard Cosell. Yet, as the finals were televised, it was evident that while officials may score on points, for the spectators it's punishment that counts.

To the electronic media it's the dollars that count. This was brought home to me while watching television during the Olympics. Dr. George Lundberg's excellent editorial in JAMA on the subject of brain injury due to boxing brought on the wrath of the electronic media. None other than the president of one of the major television networks took to the airwaves to suggest that the AMA's call for stringent restrictions on boxing represented no more than a ploy on AMA's part to direct attention from medicine's failure to meet the health needs of the American people. We might wonder at subsequent television sponsorship of the professional debut of the six U.S. Olympic champions during which at least one contestant was bludgeoned into a senseless, helpless heap. Was this to be accepted as a charitable event? More soberly, we should recognize that any effort on our part to curtail the gloves that land the golden blows will face substantial and well-financed opposition. That should not deter us. Ours is the profession that protects the athlete, not the crowd or the spon-

California was the site for another gathering of crowds. Ronald Reagan ended his campaign in a shopping center parking lot—not surprising in that state. The country elected the President to a second term by a very convincing majority. Sages of all ideological stripes have dissected and analyzed reams of pontifical postulates on the meaning of the electorates' mood and intent. For medicine, regardless of your favorite editorial savant's views, we face some very serious challenges.

Presented at the Interim Meeting of the American Medical Association, Honolulu, Dec. 2, 1984.

For four years, the AMA has generally supported most of President Reagan's reforms of government health programs. When he first assumed office, a severely distressed nation struggled to cope with disastrous inflation, deepening recession, worsening unemployment, interest rates that stifled industrial and economic growth. As the organization representing America's physicians, as the representative of responsible citizens, AMA pledged that the nation's doctors would do our share to help solve the country's financial problems.

Often, sadly far too often, we stood alone in supporting needed cuts in budget allocations for federally financed health programs. Simultaneously we were working to translate decreased dollar allocations into a more efficient and economical system. We received little or no thanks for our efforts. Rather we find ourselves struggling to make DRG payment work without compromising the medical care of Medicare beneficiaries. Instead, we go begging for a few crumbs to assure that qualified medical students, nurses in training and neophyte medical technologists have the resources to obtain the education and training essential to provide first-class health care for generations of as yet unborn American citizens. We talk to deaf ears as we decry HCFA's ruinous program it calls PRO. With our medical schools and our basic research scientists we worry over whether rationing of health care in this country will come in the form of truncating scientific progress, medical education, and graduate training. We feel pain and sorrow but stand in frustration as more and more of the poor are shoved to the back of the bus or out onto the streets.

As Mr. Stockman puts together the budget recommendations for the administration's new health program reforms for the nation we need to garner our strength and very clearly we need to say "Enough is Enough!"

We are the protectors of the public health. We must not stand impotently by. We are responsible despite an expanding and aging population needing and receiving steadily increasing medical services, and in the face of a steadily growing, miracle-making fund of technology. With all the change, with all the growth, this country's hospitals and physicians have slowed the rate of inflation in hospital costs to just slightly above that of overall increases in the CPI and have reduced the price of physician care to about half the rate

of general inflation for all services. We will continue those efforts because we believe in economy and efficiency. But we must send a clear signal to the country that we can generate more enthusiasm and cooperation from our colleague, and indeed do a better job, without new doses of the kinds of remedies the administration and the Congress have been dispensing. General tax funds allocated to patient care constitute no more than 3% of federal expenditures; education and research, less than 0.7%. Moreover, those line items are not anonymous sums of money; they represent the lives and well-beings of very real men, women and children.

Probably the most horrendous event for medicine of the past five months came when Congress decided it no longer had the same obligation it once had to the nation's old people. The news came in amendments to Medicare contained in the budget reduction act adopted in July. "So much for the contract we signed with you in 1965," the members said through their actions, "we have new rules."

In my view, this hastily conceived action, developed behind the closed doors of a conference committee, with no opportunity for public comment or debate, represents one of the most callous and cynical actions ever adopted by any Congress.

Callous, in that the Congress reneged on an old promise while making a new and false promise to the elderly. The false promise is that the government will save money for the elderly and the disabled. In fact, by freezing reimbursement (not fees, reimbursement) government picked the pockets of Medicare patients for approximately \$2 billion of increases in charges that had already accumulated between June of 1983 and July of 1984. Additionally, they promised that they would honor some unspecified increase in prevailing charges that would be allowed to accrue between June of 1984 and September of 1985.

Talk about your shell games—over 80% of physicians already selectively accept assignments—altogether, many have accepted assignment for 100% of their patients since Medicare was adopted. Over half of all bills are on an assigned basis with the physician frequently ignoring the 20% co-pay for those in need of help. Now comes the Congress with a straw man to divert attention from its own profligacy. No matter what they call it, or how they cut it—20% of any increase—the 20% co-pay—is still more for

the patient to pay. The Medicare patients have been had, and worse they don't seem to realize it. Still worse, some of the organizations professing to represent them compound the problem by repeatedly misinforming them that *now* the feds will pay the full fee on assigned claims.

Even more callously the Congress capriciously has attempted to create two classes of patients—those of "participating and nonparticipating" physicians—thus producing extraordinary anxiety among Medicare recipients and provoking a state of conflict and friction between the nation's elderly and disabled and the doctors from whom they seek their medical care.

And, wrapped in a cloak of pure and noble intent, government offered a bribe—Congress assumed that most American physicians would give up their rights and obligations to independently deal directly with their own patients on an individual basis, and instead would bank on the promise that at some future date that same Congress would pay them more. Wrong. We note with considerable satisfaction that the overwhelming majority of our members opted to continue to deal with their patients one by one and meet their needs on individual basis.

As you know, the AMA and several other plaintiffs, including some Medicare beneficiaries, have filed a suit in federal court to overturn what we consider to be an unconstitutional abridgement of fundamental freedoms of both patients and their physicians. We will pursue this litigation vigorously.

We will also ask the next Congress to reconsider the action, to see that it is not in the best interest of the people who are dependent on Medicare for payment of medical bills. It does not represent sound public policy. Yes, Medicare needs basic reform if it is to continue to provide assistance to those over 65 or disabled who need help in paying for their care. This needs to be pursued in a calm and rational fashion, not in an environment of crisis. We will offer our advice and assistance. Your response to several reports and resolutions before this House will help provide direction for that effort.

One concept that deserves very careful evaluation is the notion of a private Health Care "IRA." This simple idea is in fact the basic mechanism already in use and working well in one country—Singapore. There, all workers have their own tax-exempt health bank account which they may use to pay for medical care. We can

sometimes find possible answers in unexpected places.

Even as we strive to resolve these problems, we face additional challenges or better put, we have some challenging opportunities.

Although the Congress may have created an environment of uncertainty for the elderly, we must, by our actions, demonstrate our continued commitment to care for them. Rather than taking solace in the knowledge that on average people over 65 are self-sufficient, let us recognize that averages don't help the person on the low end of the curve. Large numbers of social security recipients have no other income, 60% are women, 40% live alone, many with very little additional resources. For them, Part B premiums already consume a substantial amount of their discretionary dollars. The very least we physicians can do is inquire whether or not they can afford a usual fee or even the 20% co-pay. And we must do the same for non-Medicare patients. We can count on our members. The overwhelming majority of them have frozen their fees voluntarily. We must urge them to continue. Though the Congress may have lost its sensitivity, let us not abandon ours.

The public takes very close note of our actions. We must prove ourselves over the long run. The public is skeptical of our motives. Not all of us have been above reproach. Make our colleagues aware that fewer than three of ten people believe that doctors charge reasonable fees, that no more than two of ten think doctors are trying to hold down costs, that almost four of ten harbor the idea that doctors act as though they are better than other people and only the same number believe we spend enough time with them. Simultaneously, the overwhelming majority of those polled still give their own physicians high grades in each of these same areas. The implications of these data? Several: One, a hostile constituency begets hostile legislators and public officials and does spill over into the attitudes of those making decisions in the private sector as well. Two, individual physicians, while enjoying the confidence of their own patients, still have the opportunity to reverse this erosion of public confidence. The need to do so is urgent.

Finally, permit me a few moments to dwell upon my favorite theme—our commitment to our professional ethic. My inaugural address was published in the August 10 JAMA. I have received over 300 letters from all over the country, from doctors whom I have never met, to whom

MARCH, 1985

I have never spoken—all thanking me for giving them the inspiration and the courage to rededicate their professional lives to the fundamental ethic that led them to a career in medicine in the first place—caring for people. This is a spark that can become a prairie fire with a dedicated leadership fanning it at every turn.

In recent years, with increasing frequency, we have observed initial descriptions of major scientific achievements described not in scientific journals but on the pages of the public press. All too often, some of these reports have proved premature at best, others brashly overblown. They seem to have served no purpose other than personal aggrandizement for the investigator, and while provoking unfavorable hopes, raised expectations for many.

We've had Barney Clark and Jarvik II with a grand circus played before millions until the day he died.

And then came Baby Fae. With her TV debut and organized press conferences came daily debates by experts who never saw this infant. Debates about the medical facts and of equal import, the ethical concerns surrounding her surgery.

Though many have, I do not question the ethics of the xenograft itself. Nor have I any question about whether or not adequate search had been made for a human baby heart or the feasibility of alternative surgery. With or without such a search, there would have come a day when no such other option existed and the go or no go xenograft decision would have been made.

Similarly, one must assume that the parents had made a fully informed consent—no promises (only hopes) and for legal reasons did consent to photographs including video. Doubtless without that the hospital would not have allowed the surgery to be performed, much less have paid for it. I do wonder if the agreement included providing the parents with video tapes of their daughter's nightly performance on the 6 o'clock news—greeting 100 million strangers from her tiny bassinet.

And I wonder about other ramifications. Who benefits from this public display? Our professional code says that what we do should be for the patient. Does the effort to save Baby Fae's life demand that her privacy be thus destroyed? Would the *National Enquirer* or the *Star* have offered thousands, in the expectation of making millions, for her story under other conditions? What if the university had decided to allow the surgery to proceed only if the results were ulti-

mately reported in an appropriate scientific journal in the usual objective, unemotional, antiseptic jargon we doctors use when we share scientific achievements with one another? Would the public's right to know have been thwarted had they had to wait 4—6—12 months until the results of this experiment were fully known?

The president of the university declared on national TV: "This now really puts our school on the map." The parents quietly asked for peace of mind. Do we applaud the university's beneficience to Baby Fae or wonder instead is this kind of public display in anybody's interest—including the university?

And to me a more profound and fundamental question: How do we respond when next the Congress proposes to invade the doctor-patient privacy when we have not shown some concern for Baby Fae's?

Other questions remain as well. Since June, many member and nonmember physicians have written to ask me if our association will declare a commitment to the sanctity of human life. As we forge ahead in the myriad mazes posed by genetic manipulation, in-vitro fertilization and surrogate parenting, as we attempt to respond to suggestions that the very elderly and infirm might do everyone a favor if they returned to dust as quickly as possible, I suggest to you we had best test the limits of our own commitments to the individual.

As more and more people ask how to decide where to draw the line between viability and nonviability, between the right to live and the right to die, I submit to you that I do not want them to ask the Congress or the courts to decide. I want them to ask physicians how best to decide.

There are many questions of profound importance to our future as a respected profession. Let us seek some hard-nosed, principled answers.

Some may not want to rise to so many challenges. Personally, I am President for those with professional pride and principles to which they adhere and am not leading an army of pragmatists who would rather evade the questions in the first place. The history of this association clearly demonstrates that we can and will take the heat no matter how intense. Let us let it be widely known we are here to stay. If the response I have been receiving around this country is any indicator, the pragmatists have lost and the true professionals will prevail.

CRITERIA FOR EXCELLENCE

An insurance company for doctors. Since 1976, the State Volunteer Mutual Insurance Company has reflected an unusually high degree of what it takes to not only make the grade, but pass with an "A."

SVMIC was recently awarded an A (Excellent) rating by the A.M. Best Company. A.M. Best is to the insurance industry what Standard and Poor or Moody's is to the bond industry.

This rating is based on competent underwriting, cost control and efficient management, adequate reserves for undischarged liabilities of all types, net resources adequate to absorb unusual shock and soundness of investments.

For something we've been doing all along, it's still nice to be looking better and better. We're here for you. For your benefit. For your security. For your future.

Exclusively approved by the Tennessee Medical Association

A.M. BEST COMPANY

Ambest Road

OLOWICK, NEW JERSEY 08858
201-439-2200
TELEX 837744

Based on our current analysis of the company's financial position and operating performance, we assign a Best's Rating of A (Excellent).

insulance Reports, Property -Casually who is your ourselessy to liqualish

This reflects your conservative liquidity and leverage positions, your above average operating gains over the past five years, and your conservative loss reserving practices.

Board of Directors

West Tennessee Richard A. Atkinson, M.D. J. Kelley Avery, M.D.* James T. Craig, Jr., M.D. Allen S. Edmonson, M.D.* Middle Tennessee William H. Edwards, M.D.* Malcolm R. Lewis, M.D.* Warren F. McPherson, M.D. Joseph L. Willoughby, M.D.*

East Tennessee Jesse E. Adams, Jr., M.D.* E. Kent Carter, M.D.* Nat E. Hyder, Jr., M.D. William O. Miller, M.D. Insurance Advisors
Thomas R. Cummings*
J. Bransford Wallace*

Medical Association Adviser L. Hadley Williams, Jr.

Executive Committee (*)

By Doctors For Doctors



State Volunteer Mutual Insurance Company

P.O. Box 70 • Brentwood, Tennessee 37027 615-377-1999 • 1-800-342-2239



Physician Insurers Association of America

Blunt Anorectal Injuries in Children

G. O'NEAL VINSANT, M.D. and WILLIAM L. BUNTAIN, M.D.

Introduction

Significant emotional and physical morbidity is associated with blunt anorectal trauma in children, and with the exception of occasional straddle injuries is usually related to child abuse or sexual deviate activity. Penetrating injuries in children are usually due to shrapnel or high velocity missiles in a war zone.² This report describes two male children who impaled themselves and experienced severe perineal-anorectal injuries.

Case 1

A 6-year-old white boy suffered a deep anoperineal laceration from impaling himself on the banana seat of his bicycle. Playing with friends, he rode his bicycle over a homemade jump and on landing straddled the blunt tip of the seat. First seen at an outlying hospital, he was transferred to our institution, where examination in the emergency room revealed a deep laceration to the perineum extending anterior and posterior to the anal verge, and involving the rectum cephalad and possibly the urethra.

In the operating room, examination under anesthesia revealed that the injury had penetrated the anterior wall of the anus and rectum, avulsed the tissue surrounding the posterior urethra, and totally disrupted the levator sling anteriorly. A urethral catheter was passed under direct vision and palpation and no disruption was appreciated. There was no gross hematuria, and later urinalysis revealed only 0-2 RBC/HPF. Posteriorly the anorectal wall was bruised and ecchymotic but no disruption was noted.

After copious irrigation with dilute betadine, primary repair of the anoperineal laceration required reapproximating the avulsed tissue over the urethra with interrupted absorbable sutures, rebuilding the levator sling, and closing the anterior dead space. The rectal wall was closed with a continuous absorbable suture in the seromuscular and mucosal layers, and a subcuticular stitch closed the skin.

The child was then turned onto his back, and a left lower quadrant incision lateral to the rectus muscle exposed the sigmoid colon. An end sigmoid colostomy with a Hartman's pouch was constructed.

The child was managed in the PICU postoperatively, receiving gentamicin, clindamycin and ampicillin. Aside from a few preexisting mild medical problems that required some attention, he did very well postoperatively, remained on intravenous antibiotics for nine days, and was discharged on oral broad spectrum antibiotics.

From the Department of Surgery, University of Tennessee Memorial Hospital, Knoxville.

When he returned to the hospital eight weeks later for closure of the colostomy, normal anorectal motility was confirmed and complete healing of his rectal injuries had occurred. His postoperative course was uncomplicated, and he has been totally continent since.

Case 2

While "snow coasting" on a toboggan, a previously healthy 10-year-old boy fell off and slid on his buttocks into a tree stump, impacting his perineum against the stump and severely injuring his perineum, anus, and rectum. On his presentation in the emergency room (Fig. 1) the injury was seen to extend well up into the rectum, with apparent disruption of the levator sling anteriorly and posteriorly.

Examination under anesthesia (Fig. 2) revealed a posterior injury extending cephalad for 10 to 12 cm from the dentate line, completely transecting the external sphincter, dividing the internal sphincter and puborectalis sling, and extending posteriorly into the hollow of the sacrum, from which a small bolus of feces was extracted. Anteriorly, the injury extended through the external sphincter, cephalad 8 to 10 cm, and anteriorly to the area immediately posterior to the urethra where the previously placed Foley catheter was easily palpated.

After the injury area was copiously irrigated with a dilute saline and betadine solution, with a Penrose drain in the hollow of the sacrum exiting posteriorly through a stab wound (removed three days later), the wound was carefully approximated in layers with interrupted absorbable sutures; the minimal devitalized tissue was excised as it presented itself. The anterior wound was likewise closed in layers, without drainage. The seromuscular rectum anteriorly and posteriorly was closed with a continuous locked absorbable suture and the mucosa closed separately in a similar manner.

On completion of the perineal repair, a left lower quadrant diverting sigmoid colostomy was performed. On triple antibiotic therapy (gentamicin, clindamycin and ampicillin), the child recovered promptly, was discharged from hospital ten days after injury on oral antibiotics, and eight weeks after injury had the colostomy closed. He has been totally continent since.

Discussion

Trauma involving the anorectal region involves significant morbidity and mortality, but injuries to this area in children are uncommon, child abuse and sexual deviate activity being responsible for the majority. However, blunt straddle injury or penetrating injury occuring in warfare may result in anorectal trauma in children.

Injuries due to blunt trauma to the abdomen can result in deep perineal laceration, the result

of the transmission of multiple direct and indirect forces.³ The energy transfer through the abdominal cavity from a crushing injury to the lower abdomen results in increased intraperitoneal pressure throughout the abdomen.³ Transmitted



Figure 1. Case 2 on presentation to the emergency department. Anterior and posterior sphincter disruption extending cephalad into rectum



Figure 2. Evaluation under anesthesia; looking into presacral area posteriorly and posterior urethral area anteriorly confirms sphincter damage.

superiorly, this increased pressure results in rupture of the diaphragm in approximately 4% of the victims. Inferiorly, the transmitted force can result in a snapping of the pelvic ring with sudden expansion of the pelvic outlet, and major soft tissue laceration across the perineum and groin can occur.³

Two classifications for anorectal trauma have been proposed. 1,4 Whalen et al4 described four types of perineal injury: a linear laceration from the anal verge to the midrectum intraperitoneally, extraperitoneal laceration of the rectum in the anterior wall at the point of attachment of the rectovesical septum (usually associated with disruption of the posterior urethra), intraperitoneal rupture of the rectum, and anorectal avulsion with a circumferential separation of the mucosa from the skin.

Black et al¹ graded anorectal trauma in children on the basis of severity: grade I trauma was a less than full thickness injury to the anal or rectal mucosa, grade II injuries were full thickness defects below the level of the internal sphincter with or without external sphincter injury, grade III injuries were full thickness and proximal to the internal sphincter, but without violation of the peritoneal cavity, and grade IV injuries penetrated the peritoneal cavity but were without intraperitoneal injury. Grade V injuries were the same as grade IV but with injury to intraperitoneal organs.¹ The injuries suffered by these children would be "type 3" or "grade III," depending on the classification used.

Associated injuries are important in the postoperative morbidity and mortality of patients with anorectal trauma. Because of their anatomic position, the most common associated injury is to the urethra and bladder, followed by the small bowel.⁵ In one series, blunt rectal trauma appeared to cause higher morbidity than penetrating injuries.⁶

In patients with deep perineal lacerations associated with a pelvic fracture, hemorrhage can be a serious problem. The deep perineal laceration not only results in a loss of the tamponade effect of an intact peritoneum, but also exposes the patient to possible sepsis due to urethral, bladder or rectal injuries.³ The deep perineal wound should be inspected closely, but any deep probing should be done only in the operating room for better control of bleeding by ligation of the hypogastric artery or intra-arterial clot embolization if necessary.

Any deep perineal laceration should be con-

sidered as having an accompanying anorectal injury. Major wounds above the levators but below the peritoneum may result in ischiorectal abscess or sepsis and must be treated aggressively. Appropriate primary repair of the deep perineal laceration will require an exploratory celiotomy and diverting colostomy for optimal healing of the perineal laceration and the prevention of sepsis. If contamination has occurred, drainage is essential, but will depend on the site of injury. A Penrose drain in the presacral space will usually adequately drain posterior injuries, exiting through a stab wound, since drains exited through a traumatic sacral wound may result in sacral osteomyelitis.^{5,6} The diverting colostomy alone is not adequate, and disempacton with irrigation of the distal segment until clear considerably aids in the decrease of complications. The possibility of associated sepsis with anorectal

trauma mandates antibiotics as an integral part of therapy.

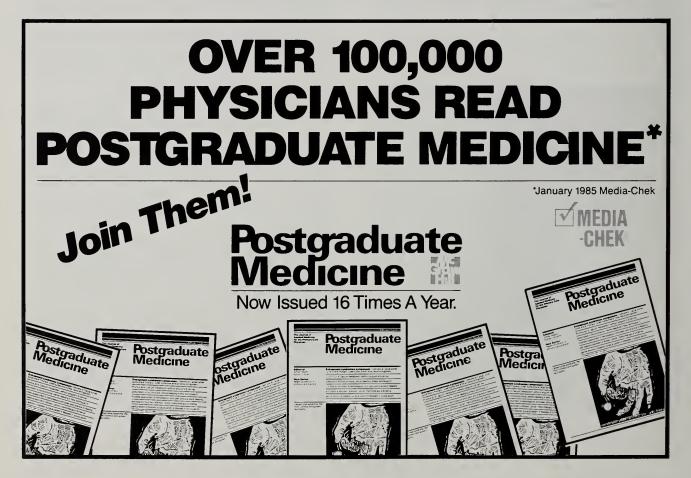
Injuries to the anorectal region in children remain a challenging management problem for the surgeon. These injuries not only require the proper application of emergency surgical technique but meticulous reconstructive effort to reduce the possible physical and social morbidity.

REFERENCES

- 1. Black TC, Pokrny WJ, McGill CW, et al: Anorectal trauma in children. J Pediatr Surg 17:501-504, 1982.
- 2. Slim MS, Makaroun M, Shamma AR: Primary repair of colorectal injuries in childhood. J Pediatr Surg 16:1008-1011, 1981.

 3. Maull KI, Sachatello CR, Ernest CB: The deep perineal laceration—an
- injury frequently associated with open pelvic fractures: A need for aggressive surgical management. *J Trauma* 17:685-696, 1977.

 4. Whalen TV, Kovalcik PJ, Wilson GG: Traumatic perineal laceration. *Am*
- Surg 48:145-148, 1982.
- Grasbergen RC, Hirch EF: Rectal trauma—a retrospective analysis and guidelines for therapy. Am J Surg 145:795-799, 1983.
 Vitale GC, Richardson JD, Flint LM: Successful management of injuries
- to the extraperitoneal rectum. Am Surg 49:159-162, 1983.



If Only I Had Seen Him . . .

J. KELLEY AVERY, M.D.

Case Report

A 30-year-old father of two went to his Board certified family practitioner complaining of tenderness in his right testicle, along with some generalized nonspecific aching and soreness in the lower pelvis and rectum. He also stated he had noticed some blood in his urine for the last couple of days.

Examination by his physician revealed the testicle and epididymis to be normal in size and nontender. The prostate gland was found to be normal in size and neither hot nor swollen, but there was a "little tenderness" noted in the region of the right seminal vesicle. Based on this examination, a diagnosis of mild prostatitis with epididymitis was made and the patient was given carbenicillin (Geocillin), one capsule four times per day, pending results of a urine culture and sensitivity and urinalysis.

The urine culture reported later that day grew out a moderate amount of *Staph*. *epidermidis* that was resistant to tetracycline and ampicillin. The urinalysis was apparently either not done or the doctor was not notified of the results.

When the patient returned following a 12-day course of carbenicillin therapy, examination in the office revealed the prostatitis to be "clearing fairly well," but there was still mild to moderate soreness in the region of the prostate and right seminal vesicle. In addition, the patient complained of excessive flatus and mild diarrhea. This was believed due to the carbenicillin, so the medication was changed to trimethoprim/ sulfamethoxazole, one tablet twice a day for six weeks. The patient was instructed to call if he felt he was not improving.

Two weeks later the patient was seen complaining of vague abdominal pain in the right lower quadrant over the internal inguinal ring. Coughing or straining increased the pain, which would radiate into the right testicle. The patient also complained of low back pain and occasional urgency, but no dysuria. He further stated that he continued to have intermittent hematuria. The patient says he also complained of some itching and flaking of the skin on his calves although that complaint was not documented. Following these subjective complaints, a diagnosis of possible right inguinal hernia with continued prostatitis was made, and the patient was referred to a general surgeon for evaluation of his possible inguinal hernia.

Later that same day, the patient says he telephoned his physician several times with complaints of itchy watery eyes, nasal congestion, and blisters forming inside his mouth, but he was told that due to the heavy afternoon schedule the doctor could not see him until the next morning.

During the night the patient awoke coughing up blood and went to the emergency room of the local community hospital, where examination revealed a severe conjunctival infection with a yellowish discharge, and confluent errosive lesions on the buccal and pharyngeal mucosa, some of which were hemorrhagic. There was a papular confluent rash over the internal surfaces of both upper thighs. The patient was immediately admitted to the hospital from the emergency room.

On the day after admission, the patient developed a generalized papular rash, and vesicles began to form over the papules. By the third hospital day, the rash was generalized, and urologic consultation was obtained for a bulla that almost totally covered the patient's penis, obstructing the urethra. After this was debrided the patient was able to void. An ophthalmologic consultation was obtained because of continuous discharge from the eyes and marked photophobia; finally, a dermatologic consultation was obtained and the patient was diagnosed as having toxic epidermal necrolysis, probably due to trimethoprim/sulfamethoxazole therapy.

When no improvement followed very aggressive therapy, the patient was transferred to a university burn center for treatment of his skin lesions, which were equivalent to second degree burns over 95% of his body surface. This hospitalization was of six weeks' duration, and the medical expenses were massive.

The patient did recover, but he sustained extensive scarring, leaving him permanently disfigured.

Loss Prevention Comments

This Board certified family physician managed his patient as many family physicians and/or urologists might have done, illustrating again very clearly that when a bad result occurs, the entire management of a case is called into question. The initial urinalysis was never reported, and the complaints of hematuria on more than one occasion were never systematically investigated. It is difficult to support the use of antibiotics in this case from the beginning. The doctor did not document his telephone calls from the patient, and thus was unable to support his memory from his records regarding this matter.

The extremely severe reaction to the trimethoprim/sulfamethoxazole combination emphasizes need for discussion between the physician and the patient as to the possible complications from medication.

The plaintiff's expert witness testified that the doctor was below the standard of care in (1) failing to examine prostatic fluid, (2) failing to diagnose the specific type of prostatitis, (3) failing to follow up on the urinalysis, (4) negligently ordering trimethoprim/sulfamethoxazole after the culture grew what was probably a contaminant, (5) failing to warn the patient of the risks of the chemotherapeutic agent used, (6) failing to recognize the early symptoms of an allergic reaction, and (7) failing to react to telephone calls indicating a potentially serious problem.

There is little question that the physician's failure to see this patient and personally involve himself in what the patient considered a serious complication was the reason for this action having been brought in the first place.

Dr. Avery is the medical director for State Volunteer Mutual Insurance Company.

Exercises in the Elderly— Benefits, Precautions and Recommendations

FRANK W. GLUCK, JR., M.D.

Many more of our elderly patients are requesting information regarding the benefits and potentially harmful effects of an exercise program. The following summarizes our current concepts of benefits versus risks of exercise for the elderly, and represents a list of recommendations for conducting an exercise program.

Benefits

In general, the same benefits of regular exercise apply to the elderly as to the general population. Increases in maximal oxygen consumption (and, hence, cardiovascular fitness), decreases in resting systolic and diastolic blood pressures, and a decrease in resting heart rate can all be demonstrated with consistency. Whether these effects result in decreased cardiovascular mortality is uncertain, but the effects on increasing cardiovascular efficiency parallel those seen in younger people. ²

Exercise has been shown to increase the strength of the muscle fibers used regularly and to delay the rate and onset of osteoporosis.^{3,4} A reduction of percent body fat is also observed. Subjectively, the improved sense of well-being and increased self-esteem are often reasons enough for encouraging an older person to exercise.

Precautions

The following general precautions apply to all age groups. The older the individual, the greater degree of importance these precautions should assume.

Cardiovascular. A preexercise evaluation by a physician is mandatory for the elderly because of the increased incidence of cardiovascular disease with age. The detail of the evaluation depends upon the past medical history, the preexisting degree of fitness, and the individual's overall state

of health.

Activity should be structured to minimize sudden increases in heart rate and blood pressure. The exercise prescription should match the intensity of the activity to the cardiovascular status of the individual.

Orthopedic. Muscle strength and flexibility and bone strength diminish with age, making elderly people more susceptible to stress fractures, muscle tears, tendonitis, and cartilage injuries (e.g., disc ruptures and chondromalacia). These problems can be minimized by attention to the following: (1) Allow at least 15 minutes for gentle muscle stretching to "warm up": adequate muscle flexibility is essential. (2) Allow a full 24 hours or more between exercise sessions to insure adequate rest. (3) Stop exercising if the activity results in increased pain or swelling of a joint, tendon, or muscle.

Most exercise-related injuries are preceded by warning signs (increased pain or swelling of a joint, tendon, or muscle) which should enable the individual to prevent further injury if the warning is heeded. Patients with peripheral neuropathies should be particularly careful to avoid activities that place mechanical stress upon the bones and joints. Swimming or riding an exercise cycle would be preferable to jogging in this situation.

Environmental. The ability to regulate body temperature declines with age, and the elderly are more susceptible to the effects of extreme cold and heat. It is not advisable for an elderly person to exercise in subfreezing conditions or where the temperature is above 75°F. Greater caution is needed when the relative humidity is above 60%.

Eight ounces of fluid (water is usually acceptable) should be ingested per 15 minutes of exercise to minimize dehydration.

Medications. Drugs that potentially affect cardiovascular function, intravascular volume, autonomic function, or the sensorium can affect exercise performance. Antihypertensives, diuretics, anticholinergics, and tranquilizers are examples.

From the Primary Care Center, Division of General Internal Medicine, Vanderbilt Medical Center, Nashville.

In general, the intensity of the activity will require some degree of modification if a person is taking such medication.

An Exercise Program for the Elderly: Specific Recommendations

- 1. The activity should be designed to achieve a gradual increase in heart rate and blood pressure. It is desirable to use the larger muscles if caloric expenditure is to be maximized. Brisk walking, jogging, bicycling (especially the stationary bike), or aerobic dancing are excellent examples of such activities. Swimming is also excellent, but uses fewer calories.
- 2. The activity should achieve an intensity to maintain a pulse rate between 110 and 130 beats per minute for at least 20 minutes if improvement in cardiovascular and muscular endurance is desired.
- 3. The optimum frequency of exercise sessions should be three to four times per week if the achievement of cardiovascular and muscular endurance is desired. A day of rest between periods of activity is highly desirable to avoid injuries.
- 4. The importance of muscle flexibility cannot be stressed too much if musculoskeletal injuries

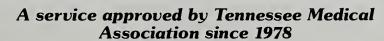
- are to be avoided. A 10 to 15 minute "warm up" phase should incorporate gentle muscle stretching before the activity is to be performed. This should be repeated for at least 5 to 10 minutes after the completion of the activity to allow the muscles to relax and the pulse rate to slow.
- 5. In general, isometric exercises (weight lifting, rowing, shoveling) should be avoided by the elderly. Though these exercises improve muscle strength and athletic performance, which should be secondary goals in this age group, they also cause rapid rises in the pulse rate and blood pressure, as well as producing exaggerated stress on muscles and tendons.
- 6. The specific type and intensity of exercise should be determined by the physical health of the individual, previous exercise habits, and the individual's own preferences. Enjoyment of the exercise will influence the individual to continue a regular program.

REFERENCES

- 1. de Vries HA: Fitness After Fifty. New York, Charles Sudners & Sons, 1982
- 2. de Vries HA, Adams GM: Effects of the type of exercise upon the work of the heart in the heart in older men. J Sports Med Phys Fitness 17:41-47. March, 1977
- 3. Aloia JF, Cohn SH, Ostuni J: Prevention of involutional bone loss by exercise. Ann Intern Med 89:356-358, 1978.
- 4. Larson L: Physical training effects on muscle morphology in sedentary males at different ages. *Med Sci Sports* 14:203-206, 1982.

CUT the **COST** of your workers' compensation insurance with the Dodson Plan!

15% advance discount applies PLUS dividends averaging 23.5%



With Dodson, you also benefit these ways:

- Yearly dividend paid as earned at year-end, based on cost of claims from all insured.
- Quick, efficient claim handling, often completed within 48 hours.
- New, no-charge payment plans.

Write us or call toll-free for full details:

Insurance provided by

CASUALTY RECIPROCAL EXCHANGE

Member of Dodson Insurance Group P.O. Box 559, Kansas City, MO 64141 800-821-3760

MARCH, 1985

Southern Regional Task Force on Infant Mortality

FREDIA S. WADLEY, M.D., MSPHA

Because of the unacceptably high rates of infant mortality in the South, the Southern Governor's Association has brought together governors, legislators, public health officials, physicians, nurses, and lay and professional advocates to address the problem. The final product of this Task Force will be a series of recommendations on how southern state policymakers and health care practitioners can pursue innovative, cost-effective, preventive approaches to reducing infant mortality.

The first meeting of the Task Force, chaired by South Carolina Governor Richard Riley, was held Dec. 17, 1984, in Columbia, S.C. There was agreement from the outset that many research and demonstration projects of private and public organizations have been successful in reducing the incidence of low birth weight and infant mortality. The issue now is how to fund and implement aspects of these projects in more communities of the South.

Many people wonder why there is concern over our infant mortality rate (IMR), since it has been declining since 1965, when regionalization of perinatal care began receiving emphasis. Although the United States IMR has declined from 28 per 1,000 live births in the early 1960s to a provisional rate of 10.9 in 1983,1 we still have problems: (1) The IMR for blacks remains almost twice that of whites for the United States and Tennessee. (2) Nearly a quarter of a million infants born each year in the United States and approximately 5,250 in Tennessee weigh less than 2,500 gm. (3) The incidence of low birth weight (LBW) has declined relatively slowly compared to the IMR, and the incidence for blacks is over twice that for whites. In 1983, the United States LBW percentage was 5.7 for whites and 12.5 for blacks, while in Tennessee the LBW percentage

was 6.5 and 13.0 respectively.^{1,2} (4) The United States is considerably behind other industrialized nations, ranking 16th in 1980 with an IMR of 12.5; the lowest was 6.9 in Sweden.³

Heins et al,⁴ in South Carolina, looked at the effects of a high-risk perinatal program on perinatal mortality and low birth weight. They found the program decreased the number of fetal and neonatal deaths by 50% among program participants; there was, however, no statistical difference in birth weight distribution between the study and control groups. Their conclusion was that "high-quality perinatal medical care seems to improve the survival of infants of low birth weight; however, the major determinant of perinatal mortality, low birth weight itself, remains an unresolved challenge."

Almost 90% of LBW infants in this country are preterm births, or births before 37 weeks' gestation.⁵ Therefore, the strategies to reduce the IMR must look to decreasing the risk for preterm delivery. Dr. Charles S. Mahan, professor at the University of Florida College of Medicine and director of Maternal and Child Health of Florida, believes that Florida's LBW incidence can be reduced by 60% with early and adequate prenatal care, excellent nutrition management and food supplementation, attention to stress management, and teaching the patient signs of premature labor.⁶

Florida has instituted a statewide Preterm Labor Program based on the protocol developed by Dr. Robert K. Creasy at the University of California, San Francisco, under a March of Dimes grant. The program utilizes obstetricians and nurses to "identify high risk pregnant women with a special scoring system and to train these women to detect the subtle signs of preterm labor in time for new labor-inhibiting drugs to be effective."

Although the Creasy experimental program in California reduced the preterm birth rate by al-

From the Tennessee Department of Health and Environment, Nashville. Dr. Wadley is chief medical officer of the TDHE.

most two thirds, it is not the only method that has been effective in reducing the incidence of LBW. Most of the successful programs have the common features of getting women in early for prenatal care, providing the environment and support that will gain better compliance with recommendations, and counseling patients about prevention of LBW. While this may sound expensive, the short-term cost of perinatal care and the long-term cost relating to the social, educational, and medical problems of LBW infants are much greater.

As Tennessee's representative to the Southern Regional Task Force on Infant Mortality, I would

welcome any suggestions from Tennessee physicians on methods to reduce our infant mortality rate.

REFERENCES

- 1. Brandt EN: Infant mortality—a progress report. Public Health Rep, vol 99, no 3, May-June 1983.
- 2. Tennessee Department of Health and Environment, Division of Vital Statistics.
- 3. Wegman M: Annual summary of vital statistics—1981. Pediatrics 70:842, 1981.
- 4. Heins C, Miller J, Sear A, et al: Benefits of a statewide high risk perinatal program. *Obstet Gynecol* 62:294-296, 1983.
- 5. Villar J, Belegan J: Relative contribution of prematurity and fetal growth retardation to low birth weight in developing and developed societies. *Am J Obstet Gynecol* 143:793, 1982.
- stet Gynecol 143:793, 1982.

 6. Mahan CS: New strategies for preventing an old problem: low birthweight. J Fla Med Assoc 70:722-727, 1983.
- 7. Kongshaug M (ed): Florida launches program to reduce prematurity. *MaternaliNewborn Advocate*, vol 11, no 1, Jan 1984.

WORKING

as hard as you did six to eight years ago? Still not free to spend the time you want with your family?

Young Financial is headed by a physician's spouse; acutely aware of the unique problems physicians face. For fourteen years Peter Young has created personal financial programs for physicians to deal with these problems . . . giving them back the life they've earned.



Vanderbilt Plaza • Suite 725 2100 West End Ave. • Nashville, TN 37203 (615) 329-4770

Cardio/graphics_

A Step Above in a Holter Monitor Scan Service

Does having a great diagnostic tool made available to you in your office, clinic or hospital sound interesting?

Would an increase in revenue without capital investment be of interest to you?

HERE IS WHAT CARDIO/GRAPHICS WILL DO:

- Provide you with ICR two channel recorder(s).
- Supply all equipment and supplies for all patient hook-ups.
- Guarantee a 24-hour turn-around time from receipt of your tape at our offices.
- Provide highly skilled and technically trained personnel to scan and interpret tapes.
- Provide Board Certified Cardiologist Interpretation upon request.
- Provide full in-service training.

THIS IS WHAT YOU MUST DO:

Call (615) 352-8317 or write:
 CARDIO/GRAPHICS
 White Bridge Road

95 White Bridge Road Nashville, Tennessee 37205

We Welcome All Inquiries

Tennessee Medical Association's

Exclusively Approved

DISABILITY INSURANCE & MAJOR HOSPITAL INSURANCE PROGRAMS

Administered By

Smith, Reed, Thompson & Ellis Co.

P. O. Box 1280 Nashville, Tennessee 37202 Phone 361-6846

Manager WILLIAM H. ELLIS, C.L.U.

Director of Sales
ROBERT K. ARMSTRONG

Underwritten

SINCE THE PROGRAM'S INCEPTION IN 1942

By

Commercial Insurance Company

Newark, New Jersey

president's page



THOMAS K. BALLARD

Our Medical Association

On May 3-4, 1830, the Tennessee Medical Association was formed by a group of 47 physicians who came together from throughout the state to form a medical association that still exists. This organization was to be known as the Medical Society of Tennessee and has met in annual session each year thereafter except for the four years of the Civil War. The lofty ideals which these physicians held to remain in existence at this time. It is interesting to note that the Medical Society of Tennessee came from a bill that had been introduced in the House of Representatives of the Tennessee legislature in 1829; this bill subsequently was withdrawn and reintroduced passing both Houses of the legislature and became law on January 9, 1830.

We must remember that the qualifications for a physician in those days were many and varied. There were no medical schools in Tennessee, so there were poorly trained physicians; yet they were accorded all the rights and privileges of those physicians who had the opportunity to attend the few medical schools in the East, or to graduate from medical schools in Europe.

From the Medical Society of Tennessee, the Tennessee State Medical Association emerged to blossom into your present day Tennessee Medical Association. Each and every member of this Association has the privilege of making his or her wishes known through the many component medical societies. Policies for this organization are laid down by the House of Delegates which meets in annual session the second week in April in various parts of the state. Your House of Delegates is made up of elected delegates from the component medical societies. Resolutions may be submitted from each of the component medical societies to be considered in reference committees at the annual session. Every member of this Association is privileged to attend this session and to be heard. During the second session of the annual meeting the House of Delegates acts upon the reference committee reports, and other committee reports, and sets the policies which your Board of Trustees must follow through the ensuing year. The House of Delegates elects your officers and your Board of Trustees, after considering the nominations received from the Nominating Committee, to guide your organization through the ensuing year. The Board of Trustees of your organization meets quarterly, and at other times when emergency sessions are deemed necessary, to transact the everyday business and to handle the problems which may arise when your House of Delegates is not in session.

Thus democracy prevails. Each member has input, has the privilege to be heard, has the privilege to help make policy, and has the privilege to carry out the policy which the Tennessee Medical Association formulates. What bothers me about this entire process, however, is the laxity of some of our members who desire to criticize rather than act, to tear down rather than to build. We are all sailing in the same ship and, even though we are all individualistic, we do have a common cause. That cause is to provide quality medical care for the citizens of the state of Tennessee. Why can we not provide this care in unity rather than disunity, in harmony rather than in cacophony, in peace rather than in turmoil?

Shomes IC Ballord MO

journal of the tennessee medical arrociation

PUBLISHED MONTHLY

DEVOTED TO THE INTERESTS OF THE MEDICAL PROFESSION OF TENNESSEE

OFFICE OF PUBLICATION: 112 LOUISE AVENUE, NASHVILLE, TN 37203

JOHN B. THOMISON, M.D., EDITOR

ADDISON B. SCOVILLE, JR., M.D., ASSOCIATE EDITOR JEAN WISHNICK, MANAGING EDITOR

Acceptance for mailing at special rate of postage provided for in Section 1103, Act of October 3, 1917, authorized July 15, 1932

Copyright for protection against republication. Journals of the American Medical Association and of other state medical associations may feel free to quote from this Journal whenever they desire merely giving credit to this publication

Address papers, discussions and scientific matter to: John B. Thomison, M.D., Editor, P.O. Box 70, Nashville, TN 37202

Address organizational matters to L. Hadley Williams, Executive Director, 112 Louise Avenue, Nashville, TN 37203

COMMITTEE ON SCIENTIFIC AFFAIRS

OSCAR M. McCALLUM, M.D., Chairman, Henderson SIDNEY L. BICKNELL, M.D., Jackson WINSTON P. CAINE, M.D., Chattanooga CLAUDE H. CROCKETT, JR., M.D., Bristol FRANCIS W. GLUCK, JR., M.D., Nashville JOHN B. THOMISON, M.D., Nashville, Ex-Officio

MARCH, 1985

inauguration last June, was a classic, and I refrained from printing it only because it was so thoroughly circulated elsewhere. His presidential address before the House of Delegates at its interim meeting in Honolulu in December, however, is a fit companion piece, and is printed in this issue of the Journal. It has some of the same overtones as his previous address but its thrust is different.

Assuming this time that we intend to remain doctors and not sell ourselves out to the marketplace, Dr. Boyle takes the opportunity to point out to us our responsibilities to our patients, particularly the poor and aged among them, for heading off the incursions being made into their continued welfare by the present federal administration and the Congress in the name of economy. The picture is not bright, particularly since the arms of government, by diversionary and frequently devious tactics, have sought to shift the blame onto medicine for the fiscal ills of the needy; to a large extent they have succeeded, too-so much so that it will make the task of combatting those incursions even more onerous.

I commend the address to you for your perusal, and urge your subsequent action upon its exhortations. How much we can actually accomplish is debatable, but at least we will have tried; sitting impotently by to watch the system disintegrate will cost us not only the game, but our self-respect as well. On second thought, the system is not disintegrating. It is being dismantled. Of the two, that might be the easier to cope with.

J.B.T.

editorias On Doing Something About

A Call to Arms

As has been pointed out by numerous individuals on myriad occasions of late, medicine, along with the nation and the economy generally, is faced with seemingly insurmountable problems. No one has been more articulate in describing them, however, than our current AMA president, Joseph F. Boyle, M.D. His eloquent call for a return to professionalism, delivered at his

The Weather

As everybody knows, the weather, though a favorite topic of conversation, is something nobody can do anything about, even though attempts have sometimes been made with things such as cloud seeding. I have also discovered that usual weather seldom happens anywhere, or if it does, I am being persecuted, since wherever I go, I am told it is either unusually wet or unusually dry, or it is unusually cold or unusually hot. That experience makes me travel now with more clothes than I would if I could expect the

usual. Though I like to travel light, I also like not to freeze in Florida or suffocate in Chicago. When I was in Oslo a few summers back the city was stifling under the worst heat wave in history, with temperatures in the 90s, whereas those who had at the same time gone from Norway on a holiday to the Mediterranean for some warmth were plagued by the cold and wet. I'd rather have it (proper clothing, that is) and not need it than need it and not have it.

This winter, though, has indeed been unusually unusual. It was billed as the mildest on record, and it was, too, until 1984 ran out. Remember how the forsythia was blooming at Christmastime, and on New Year's day daffodils were several inches out of the ground? We had had a couple of cold snaps in November to be sure, and one light snowfall in early December, but mostly we had spring. Then just after the first of the year a storm roared out of the northwest along the "Siberian Express" jet stream and buried the western part of the state in a record snowfall. Though Nashville missed the snow (thereby spreading a permanent cloud over one's perception of the weatherman's prognostic capability), we did shortly thereafter manage to set a new all-time low temperature record. That was accompanied by an unannounced snowfall of six inches, further beclouding the weatherman's reputation; that snow was hardly gone before another snowfall came along, and yet another is now on the Siberian Express headed our way (supposedly. In fairness, the weatherman did call the last one).

As a result of the continued snow there is a lot of cabin fever around Nashville, and I'm sure over the midstate as well—maybe the whole state even, since the schools have been closed now for nearly two weeks, and the end is not in sight. That will result in a lot of restlessness next summer when those snow days must be made up. Before it is over with, if the weather keeps on doing what it's doing, that could mean most of June, causing a lot of dislocation because of planned family vacations and so on.

Many of man's problems are homemade, and this is one of them. It is a case of therapeutic paradox, in which the treatment is worse than the disease. When I was growing up on Lookout Mountain we had a lot of snow every winter. It seldom lasted long, but sometimes got pretty deep. I do not recall that school ever closed because of it. Sometimes some of the teachers who lived in town failed to make it, but school went

on. Most of us walked, but almost everybody got there one way or another. When our own older children were small, the Nashville schools seldom closed, either. We lived close to the school and they walked. Whereas schools used to open even through snowdrifts, now almost everything closes down with the first snowflake.

This is just one more instance in which busing of the school children has served the public ill, and as usual it is the children who bear the brunt of our political manipulation. If there is any school that cannot open, then all schools must remain closed, and since rural roads can be slippery long after streets and highways are clear, the whole school system is paralyzed thereby.

Busing has just about wrecked the system it was designed to save, as all parents who can afford it, as well as many who can't, send their children to private schools, which during this present "crisis" have been closed for only a few days. Montgomery Bell Academy, where our boys went later, has been closed only a few days since the day the headmaster walked into the bowling alley some 25 years ago, when our older son had only just started there, and found a lot of his charges bowling. Even the parochial schools, which usually do what the public schools do, have taken to opening long before the public schools.

I suppose busing has been a habit for so long that it is unlikely anybody cares enough to try to undo the tangle caused so many years ago by those nine old men in Washington, who had no children of their own to worry about, and so simply did what was politically expedient. It certainly would do society a world of good, though, to reinstate the neighborhood school. That is one thing we *could* do about the weather.

J.B.T.

On Beating a Dead Horse

One of the world's most gripping novels tells the story of a man imprisoned and left for dead in the Chateau d'If in Marseilles Habor for no greater crime than loving the wrong woman. While in prison he is given a treasure map, which on his escape makes him a rich man. He returns to civilization as the Count of Monte Cristo, and spends the next few years getting even. He does it by exposing or playing on the thoroughly in-

MARCH, 1985 173

vestigated peccadillos of his tormentors.

Not every exposé, however, is so neatly done, and frequently a little or sometimes much fiction is mixed in, either to create a better story or to fill in the blanks. It is a great way to destroy an enemy; if he deserves to die, well, why not do him in in grand style? So long as he is a villain, why not an arch one?

Investigative reporters have aired a lot of dirty linen, some of it badly in need of laundering. Their journalistic zeal, however, sometimes gets out of hand, and the innocent are not always as protected as they should be, sometimes even not at all. In fact, the innocent occasionally bear the brunt of the attack. Every now and then that zeal carries its owner into flights of fantasy that get transmitted as fact. Too often, too, the transmitted news is manufactured. Although such has always happened to some extent, the possibilities for manipulation of people and venues are greatly enhanced by television, and television crews have been caught staging demonstrations, among other things, for no better reason than to scoop the competition.

In Nazi Germany if one wished to destroy an enemy he simply began circulating rumors of Jewish blood. In Eighteenth Century New England (and many other places around the world at the time) the word was witchcraft, and during the Inquisition heresy. In the New England witch hunt the accusers were frequently adolescent girls, whose motivation varied from revenge to just attracting attention to themselves. Often the revenge was repayment for some most trivial slight or insult. Then too, such exposés were chic.

Certainly sexual abuse of children is a frightful crime, deserving of the intense disapprobation of society and all its responsible members, yet such activity has been so sensationalized by the media—at least locally—that any thinking person must begin to wonder how much of a problem it actually is, or whether it is in fact simply another of the news media's ploys—a sort of competition to see which can get the most attention (translate readers or viewers).

The news media in Nashville have recently been castigated by the police chief, and every local agency involved in child welfare, for their part in this current sensationalization. The media have been branded as irresponsible and their gossipping as conducive to the same sort of skullduggery as that hatched by the adolescents in Salem. They fear it will lead to attrition among the cadre truly dedicated to the welfare and advancement

of the young. Little by little, awash in the sea of trash, they may come to view the game as not worth the candle, and so they desert their young charges in favor of less risky employment. In short, the agencies believe the media efforts are so overblown as to be counterproductive.

In characteristic fashion, the media are beating a dead horse. Perhaps understandably, too. It is a lot easier to plow established furrows than hack out new ground. Once you get a good thing going, you wring it dry. The child sexual abuse bit is a natural. It is filled with human pathos, exposing both the worst and best in mankind. If you beat the drum properly, it works the public up into such a lather that they can't wait to see the latest edition. It sells newspapers and attracts viewers like everything. It requires little creativity—you just write. The idea is already there, the ground has been plowed, often by others; you just write—and in beating the dead horse you beat that deadline. Now you can relax. And that goes on day after day, until it becomes a habit. It is a lot easier than scrambling around for a new idea. The problem is mostly a matter of intellectual torpor.

You see, I understand the problem. It is one everyone with a deadline has to fight all the time. In meeting that deadline, though, one needs to take care that flights of fantasy do not substitute for newsworthy ideas, and that one does not delude oneself into thinking he is performing a public service when in fact he is only palliating his own inertia.

Newspapers and news video are not subject to marketplace forces; they do not fulfil the laws of supply and demand. Since the public needs to have the news, the media have a captive audience. For practical purposes, the public is denied the route of boycott. The only alternative then is for the media to behave responsibly on its own. When it does not, pressure cannot be applied at the bottom, but only at the top, and that by community leadership. The police chief and community agencies were exercising responsibility when they wrote the letter to the media deploring their manner of coverage of the child sex abuse problem; that instance is only a symptom, however, and not the disease. The disease is dereliction of community leadership. This does not in any way imply any form of censorship; that is both an irresponsible and an irrational remedy.

Physicians are among the natural community leaders. Too often, though, we are just too busy to become involved in community affairs. NeverAPRIL, 1985 VOL. 78, NO. 4

Electronic Media Claims

THURMAN L. PEDIGO, SR., M.D.

The Deficit Reduction Act passed by Congress in 1984, mandating a freeze on Medicare fees and various other changes in Medicare reimbursement, have made it important for physicians to take a stronger look at electronic media claims for Medicare reimbursement. For this reason, it is timely to review the current status of this system in Tennessee.

There are at present three organizations in Tennessee accepting electronic media claims for Medicare. These include Equitable Life Assurance Society of the United States, which is the Medicare intermediary for Tennessee, Blue Cross Blue Shield of Memphis, and Blue Cross Blue Shield of Chattanooga. It is interesting to note that while anyone with a personal computer with file handling and telecommunications capability should be able to participate in electronic media claims processing, there is little of this activity in Tennessee with the exception of the very large groups. It appears most physicians believe the problem too complicated and the equipment too expensive to take advantage of this service.

Its advantage accrues both to the intermediary and to the physician. The principle benefit of using electronic media claims at present accrues to the intermediary, which is that they do not have to keypunch claims transmitted electronically. This, of course, is a tremendous savings in terms of personnel costs. The benefit to the physician is a more rapid turnaround time in receiving pay-

Reprint requests to 1502 Sparta Road, McMinnville, TN 37110 (Dr. Pedigo).

ments. Equitable has recently gone on an every-two-weeks pay period, but as an inducement to physicians to use electronic media claims, they provide a one-week turnaround period for claims. In practice, this includes only the claims their computer system does not put on hold for various reasons. If this occurs, the electronic claim is put in essentially the same category as a paper claim. Since Equitable does not provide a listing of pending claims, it is difficult to evaluate this delaying factor. In the near future they plan to add electronic transfer of funds.

The other advantage to physicians' offices that could accrue, but has not yet, is electronic transmission of the explanation of Medicare benefits (EOMB). This would obviate the necessity for physicians' offices with computerized accounting systems manually posting the payments and adjustments from the EOMB. This suggests the possibility of filing electronic media claims with Medicare without having a computerized accounting system. While I know of no one presently utilizing this method, I see no reason why an individual with a personal computer with file handling and communication capability could not handle electronic media claims without having a full medical accounting system.

There are three media for electronic claims presently available for use by individuals interested in this process:

(1) Tape Drive. This form of electronic media claims has been used for some time now by Eq-

APRIL, 1985 205

ELECTRONIC MEDIA CLAIMS/Pedigo

uitable and is an excellent method of transferring electronic data. The problem is that only the more expensive systems have this capability. Until recently, electronic tape drives alone usually were in the range of \$12,000 to \$15,000. The price is coming down, but a tape drive alone in most systems can still cost more than an IBM PC.

- (2) Floppy Disk. This requires a floppy disk compatible with the reading capabilities of the intermediary or service used. Blue Cross of Memphis presently uses an IBM 3741 compatible diskett, which seems to be an industry standard in floppy disk, though the rapid changes in technology over the last few years and in the near future may change this situation.
- (3) Telephone Transmission of Claims. Equitable and Blue Cross of Memphis both presently have this system working. There are a few systems in Tennessee transmitting to Equitable, and I understand that Blue Cross of Memphis is receiving some transmission by telephone. There are also medical accounting systems on various kinds of computers with this capability being marketed in Tennessee, though there seem to be only a few actually in use.

The personnel at Equitable have been most helpful in solving the problems of electronic media transmission, and after actually addressing the problem, it turned out to be much simpler than I had initially anticipated. Each of the services in Tennessee has a manual for accomplishing the electronic media transmission, though these manuals do tend to be a bit cryptic at times, and while they may be quite meaningful to individuals on the receiving end, they are hard to decipher. One of the most important features of performing the telecommunications is getting comfortable with them. One of the best ways to do this is to subscribe to one of the national data bases, such as CompuServe, BRS Colleague, The Source, or GTE-AMA Telenet. CompuServe and The Source are relatively inexpensive; subscriptions can be purchased at a local bookstore or computer store for less than \$50. This purchase usually includes several hours of free time on the system. These services also have some direct access numbers which are slightly less expensive, but it is recommended that the Telenet system also be used in gaining access to the data base, since Equitable uses this system for communication with their data bank in New Jersey.

In order to accomplish this communication,

one needs a communication option and software for the computer, and a modem for transmission of data. There have been several articles in various medical computing journals related to telecommunication and data bases, and these are generally useful, but the best coverage on the subject I have seen is in The Complete Handbook of Personal Computer Communications, by Alfred Glossbrenner. The book is written in understandable conversational language and addresses the subject in a way that is easily understood by the novice. Not only does it include basic equipment procedures necessary for telecomputing, but also includes information on many of the larger data base communication networks and problem solving techniques for telecommunication. I highly recommend it to anyone who is a beginner in telecommunications. These telecommunication options and software are available on most home computers. Certainly any computer store would be able to give advice regarding the telecommunication option for your computer if you have one, or discuss various options for obtaining a complete system for telecommunication.

After getting comfortable with telecommunications, one must learn how to develop and transmit a file. Many of the smaller systems have filehandling capabilities or some variety of a data base management system. Because Equitable has only batch capability in Tennessee, it is necessary to design a file so that an entire batch of information can be transmitted at once. A data base management system with a floppy disk drive would be ideal for transmission, although a cassette tape drive could be a possibility since the telecommunication would be a sequential file reading process. Although Blue Cross of Chattanooga does plan to provide a terminal and dedicated line for on-line data entry and processing, as of this writing that service is not available (Table 1).

There is a possibility of using a computer for electronic claims transmission without actually having a fully computerized medical accounting system. A printer would also be needed with any system planning electronic transmission of claims, since one would want to print out the file for error checking and hard copy documentation of the file contents. In the initial testing phase, we developed a file to Medicare's specifications and had the computer operator enter the data directly into the telecommunications file. In observing this

	Protocol	Record Length	Baud	Bits per Word	Stop Bits	Carriage Return	IBM (3741) Compatible Floppy
Blue Cross Memphis	TTY	128	300/1200	7	1	yes	yes
Blue Cross Chattanooga	TTY	192	300/1200	7	1	yes	yes
Equitable	ΤΤΥ	160	300/1200	7	1	yes	yes

process, it appeared the posting of these data would be no more difficult, and possibly less so, than filling out an insurance form. For this reason, it seems anyone who already has a personal computer system and some aptitude at using it would be able to adapt the system for his insurance clerk to use for electronic media transmission for the Medicare claims, rather than running forms through a typewriter. It would, however, involve more effort than simply giving the patient a superbill and asking him to file his own claim (Table 2).

Once a file has been designed for telecommunication transmission, one must contact the electronic billing representative at Equitable and obtain a trial transmission number. Certain passwords and other information are then required for entering the Equitable data bank via Telenet. To the best of my knowledge, this information is not available in any printed guide, and I obtained the information over the telephone. The information was somewhat incomplete, but with it and my experience in communicating with CompuServe, I was able to enter

TABLE 2

COMPARISON OF FILING METHODS

	Electronic	Forms	
	Media Claims	Processing	Superbill
Accuracy of claims	High	Fair	Low
Patient acceptance	High	High	Low
Overhead cost per claim	Volume dependent	Medium	Low
Cash flow	Improved	Fair	Good if cash with service

the system and transmit a file. I found the personnel both at Equitable and at the data bank, Litton Industries, to be courteous and helpful during this trial period. One may have up to six trial runs to complete a successful transmission. After this, any additional trials are at the expense of the user. With each transmission, the file is run through an error check program at the data bank, and the results are then transmitted to the electronic claims media representative in Nashville, who reports whether the transmission was successful or unsuccessful.

After successful transmission has been accomplished, one is assigned a regular user identification number and contracts are signed covering the various requirements for electronic media claims.

In case I have painted a picture indicating that all is well and the living is easy in this field, I should point out a few problems. It appears that both Blue Cross of Memphis and Blue Cross of Chattanooga are interested in becoming an information processing service for other health insurance companies. They hope to receive electronic media claims from health care providers across the state and for a fee restructure these data in whatever order is needed, and then transmit them on to the final destination health insurance company. With such interest, one would expect there would be some standardization, but none appears to exist in the state of Tennessee at this time.

There are dramatic differences in the record structure and length for Equitable, Blue Cross of Memphis, and Blue Cross of Chattanooga. The record length for Blue Cross of Memphis is 128, that for Equitable 160, and that for Blue Cross of Chattanooga 192. As mentioned earlier, except for telephone transmission the floppy disk is the least expensive and the most universally

ELECTRONIC MEDIA CLAIMS/Pedigo

available, and uses an IBM 3741 format, which seems to be industry standard. The maximum record length on this disk is 128, making Blue Cross of Memphis and Equitable the only systems actually prepared to use it. Equitable has solved the record length problem by splitting their 160 character into the two 80 character records they put back together with their computer. This means that if anyone were trying to communicate with all three systems, three different programs and three different file designs would be required. One could communicate with Blue Cross of Memphis and Equitable with floppy disks, and should be able to communicate with all three via magnetic tape drive.

For individuals who already have computerized medical accounting systems, it simply means obtaining a telecommunications option with software and a modem, writing a program to transfer the daily transactions into a telecommunications file, and then transmitting. There is a

minimum number each service wishes to accept at transmission. Therefore, for practices with a low volume of Medicare claims several days would need to be batched together before transmission.

Since electronic transmission of claims also requires procedure codes, use of the CPT-4, with some modification made by HCFA, was implemented in the fall of 1984.

GLOSSARY

Batch Processing: the accumulation and processing of data as a group.

Baud Rate: bits per second.

Modem: a device that accepts a digital signal and converts it to an analog signal or accepts an analog signal and converts it to a digital signal.

Online: direct connection by telephone or other communication.

Record: a collection of fields related to a specific unit of information.

TTY: teletype communications.

Help for Impaired Physicians

Through its Committee on Impaired Physicians, TMA helps doctors who are suffering from alcoholism and drug addiction. The thrust of the program is rehabilitative, not punitive. The Committee is composed of physicians who have special expertise in these areas, some from personal experience. Effective treatment for these illnesses is achieved most easily when the disease is detected early and family, friends, and associates are urged to avoid misguided sympathy which enables the condition to deteriorate.

HELP US TO HELP

Call the TMA Impaired Physician Program (615) 327-2711; outside Nashville call collect. Phone service available around the clock.



SYNERCOM PRACTICE MANAGEMENT SYSTEM

Designed to Help Busy Doctors Manage Their Practices.

Synercom's Practice Management System is the complete solution to the information management problems inherent in modern medical practices. Its capabilities include:

- Billing
- Collections
- Insurance Filing
- Management Reports

- Patient Recall
- Dictation and Typing
- Bookkeeping
- Investments
- Medical Records
- Research and Publishing

Call or write today for more information on our Practice Management System. Synercom provides consulting services. We'll gladly analyze the needs of your practice or clinic and, at no obligation, provide a written proposal defining a solution to your practice management problems. Call 615-292-2718 or fill out the section below and mail to:

Synercom Health Care Systems 2200 Hillsboro Road Nashville, TN 37212





			_
() Please send more information, including further guidelines on selecting an office computer system.		Name:	
· () I	Please call me. I'd like to arrange a personal tion. The best time to call is	Phone:	
NEC	The SYNERCOM Practice Management	Office Manager:	
AND ME NEC Information Systems Inc	System utilizes the Astra line of computer hardware from NEC, a world	Address:	
NEL Information Systems Inc		City:	
	The Practice Management System is a	Charles. Zing	

Cockfighting and Boxing: A Parallel and Paradox

RUDRA PRAKASH, M.D.

Cockfighting is illegal in several states. Recently, a veterinarian was placed on one-year probation for "unprofessional conduct"; he should not have watched a cockfight. The penalty was exemplary.

I often wonder if we really care as much for man, the so-called social animal. Frequently, we, the physicians, are not only spectators at a boxing match, but also are assigned the difficult task of ensuring the health of boxers in the ring. Are we not more guilty than the reprimanded veterinarian? One may disagree with my thesis by citing several differences between cockfighting and boxing. The former is a type of gambling in which animal cruelty is encouraged, often to the point of death in the absence of a veterinarian. Let us objectively scrutinize boxing and see if these differences really hold true. Since purse or prestige is at stake, the spectators often bet a lot of money on the boxers. Even though the job of the ringside physician is to ensure the health of boxers, brutality often leads to death; since January 1983 at least 11 fighters, possibly more, have died of injuries sustained in the ring.

Even if the physician has supposedly prevented a fatal accident in the ring, who is to be held liable for the long-term neuropsychiatric disability? In a recent investigation of 18 "modern era" former and active boxers, unequivocal evidence of brain damage was found in up to 87% of the sample! The news that the legendary Muhammad Ali has now developed pugilistic parkinsonism received wide publicity. Unless a boxer voluntarily withdraws from the bout, the knockout almost always means concussion or a graver injury. Since this is so, is the ringside physician

there just to prevent death? It appears that the proponents of boxing are exploiting physicians to make boxing look like a medically safe sport, which the statistics do not support. That boxing can be made a safe sport seems inconceivable, and if it were rendered safe, boxing would emerge as unfamiliar and "unattractive" to spectators. In spite of the mandatory headgear, at last summer's olympics, injuries occurred in boxing matches.

It should also be recognized that disability or death due to boxing may adversely affect the mental health of the family members of the boxers, best illustrated by the tragic suicide of the despondent mother of a South Korean boxer following his death from injury in the ring. Thus, it is quite obvious that the ringside physician cannot faithfully discharge his heavy responsibilities toward both the two boxers and the promotor who pays him.

A score of professional organizations have rightly recommended a ban on boxing, among them the AMA House of Delegates.³ Boxing is indubitably an inhuman duel of human beings, by human beings, and for human beings, which is indeed a shameful commentary. The government ought to be as compassionate to men as to chickens and outlaw boxing. As to the ringside physicians, they should withdraw voluntarily; otherwise, the medical licensing board, like the board of veterinary medical examiners, should call a physician's participation in boxing as either a spectator or professional a misdeameanor, and take strict disciplinary action. After all, man is more valuable than money.

From the Department of Psychiatry, Vanderbilt University, and the Tennessee Neuropsychiatric Institute, Nashville.

REFERENCES

Reprint requests to 1501 Murfreesboro Road, Nashville, TN 37217 (Dr. Prakash).

^{1.} News item: The Tennessean, Aug 24, 1984, p 1.

^{2.} Carson IR, Siegel O, Sham R, et al: Brain damage in modern boxers. JAMA 251: 2663-2667, 1984.

^{3.} News item: American Medical News, Dec 14, 1984, pp 1 and 32.

Contracting Questions for Physicians

Alternative Delivery Systems

The following questions are ones you might want to consider when reviewing a contractual agreement with a health maintenance organization (HMO), an independent practice association (IPA), a preferred provider organization (PPO), or an exclusive provider organization (EPO). The questions are intended to help you make a decision and are not meant to be an endorsement or rejection of any delivery system. A contract is a binding document, and it's a good idea to get specific legal guidance from your attorney.

Identifying Contracting Parties

(1) Is the legal name and status of each and every party to the contract identified? Can you identify each of the parties? (The legal status of the parties may have an impact on the determination of legal responsibility.) (2) What is the contracting party's track record and financial condition?

Quality of Care

(1) Does the contract allow you to practice medicine in a manner that is personally acceptable? (2) Does the contract provide for any entity(ies) other than treating physicians to control determinations as to quality of care; if so, which other entity(ies) have such authority and under what circumstances? (3) Are there cumbersome bureaucratic arrangements for securing authorization? (4) Are all medical policies clearly stipulated in the contract—have you reviewed these policies? (5) Do contractual requirements, including cost containment, impact on quality of care decisions?

Contract Restrictions

(1) Does the contract limit referrals to only participating/contracted physicians? (2) Is there a mechanism by which you are made aware of all contract physicians and their qualifications? (3)

Reprinted with permission from the Bulletin, North Carolina Medical Society, October 1984.

Do you assume financial liability if your patient is referred to a non-contracted physician? (4) Is the physician limited to contracted hospital/diagnostic services—are these clearly identified in the contract or through some other formal mechanism? (5) Does the contract limit patient coverage during your absence to contract physicians? (6) Will the arrangement disrupt or enhance customary referral patterns?

Professional Liability

(1) Does the contract contain a "hold harmless" provision that indemnifies the physician from negligent acts of other parties? (2) Is there a minimum professional liability coverage limit mandated in the contract? (3) Does the contract mandate that a claim for professional liability against a physician be resolved in any other manner except through customary processes? (4) Does the contract interfere with a physician's autonomy in the selection of a professional liability carrier? (5) Does the contract provide professional liability coverage for administrative or peer review activity performed by a contracted physician on behalf of the plan? (6) Does the contract contain provisions which inhibit prudent medical practice such as limiting or eliminating certain diagnostic or therapeutic procedures that could be interpreted as your community's standard of care thereby increasing the professional liability risk? (7) Does your malpractice coverage exclude contractually assumed liabilities?

Medical Records

(1) Does the contract authorize access to your patients' records by other parties involved in the contract? Under what circumstances? (2) Does the contract recognize legal and ethical responsibilities in obtaining signed consent forms prior to access by other parties? Is the contract language specific on this issue? (3) Does the contractual language pertaining to medical records conform with state law either by reference to a specific statutory provision or through the use of a general statement?

Workload

(1) Does the contract stipulate a minimum or maximum annual patient load for a contracted physician? (2) Does the contract stipulate whether a physician is obligated to accept any and all plan enrollees as patients? (3) What are the contractual obligations for stand-by or on call services by contract physicians?

Covered Services

(1) Does the contract specifically identify covered services and non-covered services? (2) Is there any contractual obligation to provide non-covered services to contract enrollees on demand? (3) Is there any legal obligation to provide non-covered services to plan enrollees on demand? What protections exist for physicians in the contract language if non-covered services are not provided (financial, legal liability)?

Financial Obligations

(1) Does the contract create any financial liability or obligations for the physician in terms of the services ordered? (2) Does the contract impose any financial obligations on the other parties? Do exemptions exist? Under what circumstances?

Utilization/Quality Review

(1) Does the contract stipulate preadmission certification for all nonemergency admissions? What notification period is required? (2) Does the contract provide for involvement in peer review activities by contract physicians? (3) Does the contract mandate utilization/appropriateness review activities of your practice? (4) Who does the utilization and medical appropriateness review? What are their credentials? (4) Have you had an opportunity to study the review criteria and process?

Appeals

(1) What appeals mechanism exists for adverse review determinations? (2) Is there an arbitration clause? Who are the arbitors? Are there limits on the appeals which can go to arbitration? Does the arbitration clause preclude going to court until the arbitration process is completed? Who pays the cost of arbitration?

Termination

(1) Does your termination (voluntary/involuntary) from the plan preclude you from continuing your patient-physician relationships? (2) Under what circumstances can the physician terminate the contract? What physician action is required? What notification period is specified? (3) Can the contract be terminated for cause? Are causes for termination spelled out? Is non-payment to physician a cause? (4) Do your obligations continue beyond the date of termination? How long? (5) Do you have the right to terminate if the other party becomes insolvent?

Reimbursement

(1) Are the reimbursement provisions clearly specified? (2) Can the reimbursement provisions be unilaterally changed during the contract period? (3) Is there a provision for renegotiation of the reimbursement guidelines? Who makes the decision? (4) What are the terms of any discounting or hold back provisions? Are they clearly defined? (5) Are co-payments and deductibles owed by the plan enrollees clearly defined? Can they be changed during the contract year? Does a mechanism exist to provide you with prompt notification of such changes? (6) Is there a contractual time limit for claim submission? Is there a penalty for late submissions? (7) Is there a reimbursement turnaround time specified in the contract? Does the plan pay a penalty for late reimbursement? (8) Does the compensation schedule raise antitrust concerns?

Other

(1) Are all contract provisions in conformance with applicable State laws and regulations? (2) Does a mechanism exist to identify plan enrollees? How are they identified? Is there a requirement that verification take place prior to each visit? (3) If the contract states that the contract physician will be bound by all articles of incorporation, by-laws, etc.—have you reviewed these documents? Is there a provision that contract physicians can be notified of all contract modifications? Is the physician bound by these modifications? (4) Are you prohibited from contracting with any other plan under the contract? (5) Is there a "corporate practice of medicine" legal problem? (6) Does the contract contain policies, procedures or regulations which are not attached?

CABG: Have the Indications Changed?

CHARLES E. KOSSMANN, M.D., Editor

ALAN WATANABE, M.D. (Resident Physician)

A 30-year-old black man admitted to the Memphis VA Medical Center after an abnormal treadmill test was in good health until July of 1983 when he began to have exertional chest pain described as ranging from a dull ache to a pressure in the upper left precordium. It was usually associated with some left arm numbness but no shortness of breath, nausea or diaphoresis. It would usually last only a few minutes and was always relieved promptly by rest. The amount of exertion that caused it was quite variable. He noted a "first effort phenomenon," meaning that he could get the pain when first beginning activity but could either work through it with gradual subsidence or rest a few minutes and then finish the activity, whatever it was.

Risk factors for coronary disease included a 15-year history of smoking, but there was no history of hypertension, diabetes, or abnormal serum lipids. His father died suddenly in his 40s of unknown cause.

He worked as a railroad brakeman and security guard, and while in the service was in military police at a U.S. Army post in Hawaii, where he had regular aerobic exercise as a drill instructor at three different sessions during a working day. He also liked to run five to six miles per day for the past five years but stopped soon after moving to Memphis in mid-1983, but that was because of the humidity, not the pain.

The pulse rate was 78/min, blood pressure 118/74 mm Hg, and respiratory rate 24/min. His weight was 166 lb and height 5 ft 10 in. He was a well-developed, well-nourished black man in no acute distress. Cardiovascular examination was completely negative, without any signs of congestion of the circulation. Peripheral pulses were normal.

The laboratory data on admission were unremarkable. The hematocrit was 48.6%, with a normal mean red cell corpuscular value. Platelets were normal. Serum chemistries and serum creatinine were normal, as was the urinalysis and thoracic roentgenogram. The electrocardiogram showed some nondiagnostic abnormalities of the T wave in the left lateral thoracic leads. The fasting triglycerides and cholesterol were within the normal range. An exercise treadmill test on the day of admission resulted in such severe retrosternal pain that he was referred to the emergency room and thence to the hospital.

An echocardiogram showed mild impaired contractility but normal left ventricular thickness. Cardiac catheterization revealed an ejection fraction of 76%, and a 95% occlusive lesion at the origin of the anterior descending branch of the left coronary artery. There were no wall motion abnormalities. Coronary artery bypass graft was performed without incident, and after an uneventful course he left the hospital doing quite well.

From the Department of Medicine, University of Tennessee, 951 Court Ave., Memphis, TN 38163.

Presented May 23, 1984.

STEWART L. NUNN, M.D. (Professor of Medicine, Cardiology)

We have a black male patient, 30 years old, and minimally symptomatic, who had to run usually several miles before he got much in the way of symptoms; certainly he was not terribly disabled. Should the bypass operation be done on the single-vessel disease he displayed? There are data in the literature that indicate that it should not have. At the end of my presentation I will try to give you a rationale for recommending operation.

Incidence Data

The incidence of coronary disease is tremendous. For example, in 1980 almost as many people in the United States died from it (566,000) as there are people in the city of Memphis. There were 683,000 patients admitted to hospitals with acute myocardial infarction, and an estimated 5.4 million people were diagnosed as having coronary artery disease, a fantastic burden on the economy and on the medical community.

Coronary artery bypass grafting (CABG) really started in a significant way in 1968,¹ although the first one was done in 1964 by Dr. Edward Garrett of our faculty.² By 1971, 24,000 operations a year were being done, and by 1981 this figure had reached 159,000; it has continued to increase since then, with a total annual cost of over \$3 billion. The surgical results have steadily gotten better; so has conservation of myocardium. Over the past few years operative mortality has been somewhere between 1% and 2%, depending on the medical center concerned, its criteria for selecting patients, and its method of reporting.

Assessment of Efficacy of Surgery

The results of three major trials are available for assessment of the operation's effectiveness in prolonging life. The first was the VA Coopera-

tive Study,3 which showed that except with disease of the left main coronary artery longevity was not improved by surgery. This study was criticized by surgeons and a large number of medical people because the operative mortality was above 5%. It was believed that somehow the VA results did not apply to the rest of the world because the mortality during or soon after surgery was so high. Following that, there was a European study4 done on patients with angina of varying degrees, including some with severe angina, which showed that longevity was improved by the operation. The figures obtained revealed that patients with surgical treatment had a life expectancy that was about the same as the general population of the same age group. Those on medical treatment, on the other hand, tended to have a considerably higher mortality rate, and the difference was statistically significant.

I would have to say that these data had a dominant influence on cardiologists and surgeons until November of 1983, when something was reported that seems to have caused a change, if not in the way we handle these patients, at least in the way we talk about them, and in our own sense of security that we are doing the right thing. I am referring to a national coronary artery surgical study (CASS^{5,6}) in which 12 institutions participated. I shall review it in some detail.

The CASS Study

The patients included those with "mild" angina, Canadian class I or II.7 They were 65 years of age or less, and infarction, if it had occurred, was more than three weeks old before admission to the study. Patients were not included in the trial if they had prior coronary surgery, if the angina was unstable, if it was worse than class II,7 if there was or had been heart failure, or if the patients were going to require some additional surgical procedure such as valve replacement or resection of a ventricular aneurysm. Some cardiac catheterization data also were used for exclusion—left main coronary obstruction or an ejection fraction less than 35%. The reasons were that left main disease is generally accepted as being treated best surgically, and a low ejection fraction is a major determinant of medical outcome and longevity.

What we had in the CASS study was a group of low-risk patients assigned to medical or to surgical treatment. The disease was stable, symptoms were not too easily produced, and the left ventricle functioned well. Classification of the angina was as defined by the Canadian Cardio-vascular Society. Class I is chest pain only with really strenuous or prolonged exertion. Class II is chest pain that occurs when walking rapidly uphill, upstairs after a meal, in a cold wind, more than two blocks, climbing more than one flight of stairs fast, or with emotional stress—the work load in each activity being somewhere around 4 to 6 mets. You can do a lot of things with that degree of exercise limitation—mow a lawn for example, or play doubles tennis.

In the CASS study the patients were divided into three groups: Group A had angina but a left ventricular ejection fraction greater than 50%. Group B had angina and an ejection fraction less than 50% but more than 35%. Group C patients didn't have angina but they had a previous myocardial infarction.

The annual mortality in the surgically treated patients was 1.1%; in the medically treated patients it was 1.6%. This is different from any investigation published to date; no group has had results that good with medical treatment. The difference in mortality was not statistically significant.

If medically treated patients with an ejection fraction less than 50% were analyzed, the mortality was 3.3%, clearly more than medical patients with a better ejection fraction. On the other hand, those with an ejection fraction less than 50% in the surgical group displayed an annual mortality of 1.7%. Their preoperative left ventricular ejection fraction made little difference in the overall long-term outcome. The problem with these numbers is that the differences did not meet the criteria for statistical significance.

Of the patients assigned to surgery, all but 8% were operated upon promptly at the time of assignment. A few took a while to make up their minds, or had an improvement in their angina, so that in the end 8% never had surgery. Of the original medical group a large number subsequently had surgery and thus "crossed over" into the surgical group. Analysis of all the data was done in accordance with the statistical technique known as "intention to treat." No matter which group a patient ended up in, he was counted as being in the originally assigned group. The 24% of patients started on medical therapy who actually ended up being operated on were in fact counted as medical patients.

This medical-surgical crossover raises several questions, one of which is whether patients assigned to surgery would have received operation

if they were doing well on a trial of preoperative medical management. The crossover also indicates that a subset in the medical cohort deteriorated, and were driven to operation. Whatever the cause, the fact is that one quarter of the medical group were given a bypass procedure even though they were randomized originally to the medical group. Analysis made from the "intention to treat" standpoint disclosed no statistical difference in outcome between medical and surgical patients; both had excellent survivals over the five- or six-year period of the study. Further classification on the basis of one-vessel, two-vessel or three-vessel disease again showed no real difference between medical and surgical management. Choice of treatment-medical or surgical-of patients with previous myocardial infarction, if not followed by angina and with a normal ejection fraction, resulted in no difference at all in survival. In the infarct group with lower ejection fractions there was a difference however; the results were better with surgery, but at the end of six years the difference had not reached statistical significance.

There were some problems with the data. One is that results with medical treatment were unexpectedly good in this series. No one expected to have a mortality as low as 1.6% per year; that confounded the results of the study considerably, and made it difficult to judge the usefulness of surgery statistically for increasing longevity in this selected low-risk group. In order to detect a 30% reduction in mortality with surgical intervention, 4,600 patients would have been needed in the study; there were only 780. With an ejection fraction less than 50%, a 30% reduction in either group would have been missed with fewer than 2,000 patients; the study only had 160. Another problem related to the fact that of the 16,626 patients entering the study's register, only 2,099 were eligible for randomization, and of the eligible group, only 37% chose to participate. This small, highly selected group was obviously not representative of clinical coronary disease across the board.

Comments on Problems With CASS

The CASS trial cost \$24 million and took more than six years. The planning was superb, truly "state of the art," yet it still ended up with frustrating problems in data analysis. The improvement in medical treatment just before and during the trial is probably one of the reasons for the

insignificant differences in the results of medical and surgical treatment. Medical treatment is now more rational. For example, we have a better understanding of how nitroglycerin works. Nitrates were first used in the year that Fahrenheit developed the thermometer, but only in recent years have the modes of administration and clinical effectiveness improved. Beta adrenergic receptor antagonists have been shown to prolong life after myocardial infarction. Calcium blockers probably improve the prognosis in patients with vasospastic angina, though that is not proven. Treatment of hypertension, even mild hypertension, reduces mortality from cardiovascular disease as does control of hyperbetalipoproteinemia. A problem for the medical patients in the study was that they required more continuous treatment than surgical patients. The medical and surgical hospitalizations weren't any different in frequency over the five years of study, but there was a big difference as far as medication for angina was concerned. More medical patients had to keep on taking nitrates, and far more had to continue with beta blockers. Side effects such as impotence or altered CNS function are not inconsequential in some patients.

The medical-surgical crossover is one of the most vexing aspects of the study. It is difficult to interpret the fact that almost a fourth of those originally assigned to medical therapy crossed over to the surgical groups. How much reliability can be assigned to the study will have to be a personal decision, but that crossover figure looms as being important in the decision.

The authors made these conclusions: In carefully selected patients (mild to moderate stable angina or angina-free survivors of myocardial infarction without main left coronary artery obstruction or severe ventricular dysfunction), prompt elective coronary artery bypass surgery does not result in improved survival when compared to medical management. In those with moderately impaired ventricular performance, a statistically insignificant trend in favor of surgery was evident, and may represent a true survival advantage. Insufficient numbers of patients in that subgroup prevent testing of the hypothesis, but further follow-up is planned for clarification.

An interpretation of the study by Braunwald in an editorial in the *New England Journal of Medicine*⁸ concluded that it is not mandatory to operate on patients with multivessel disease who are asymptomatic or whose angina is not intractable in an effort to prolong survival. Coronary

APRIL, 1985 221

angiography can be limited to patients who appear to be at high risk. He believed that "this operation should, and increasingly will, be restricted to patients in whom intensive medical therapy has failed or in whom improved survival after surgery has been unambiguously demonstrated, rather than as a panacea for coronary artery disease."

Unstable Angina

It is crucial not to apply these considerations to patients with unstable angina. The CASS study specifically excluded them and has no bearing on them. Rahimtoola⁹ has emphasized the far more favorable result with surgical treatment in most patients with unstable angina.

Medical therapy does not prevent death as well as it controls pain. This raises the increasingly recognized problem of painless ischemia. Rahimtoola emphasized the possibility of sudden death related to painless ischemia, and made these recommendations: all patients with unstable angina should be considered potential candidates for reperfusion and must be treated promptly in an acute care unit. All who cannot be stabilized should undergo cardiac catheterization and angiographic examination promptly. Most patients will be suitable candidates for reperfusion.

An Opinion

What can we make of all this? I will give you my interpretation. The quandary in which I find myself reminds me of the cynical quip, "Don't bother me with the facts; my mind is made up."

It seems to me the indications for coronary bypass surgery, or angioplasty when feasible, could be listed about as follows: The decision is easy if the patient has intractable angina unrelieved by maximum medication, and is begging for an operation that is known to relieve pain. There is not much more in this case to consider, especially since the operation now carries with it the relatively low risk of 1% or 2%. Unstable angina, including early postinfarction angina that is not decreasing in spite of treatment during a "cooling off" period, should for the most part be considered an indication for possible operation or angioplasty. With stable angina, longevity considerations, concomitant disease, and patient desires begin to enter greatly into the decision. If there is *left main obstruction*, bypass is indicated. If there is three-vessel disease, moderate left ventricular dysfunction, and exercise induced ischemia, operation probably is indicated. Twovessel disease, if the major portion of the left ventricular muscle is threatened by a proximal lesion ("left main equivalent"), also should be added to the surgical list. The CASS figures have been sensationalized by the lay press to indicate that we are doing too many coronary bypass operations, but there is lost in that publicity the highly important groups in which operation seems to be clearly indicated.

In our patient today, a large LAD vessel was almost completely obstructed at its origin. A major portion of the left ventricle was at risk of necrosis, which had not yet occurred; the electrocardiographic exercise test was unequivocally positive. Angioplasty was not anatomically feasible and may not have resulted in a permanent opening. It seemed entirely appropriate to offer operation to this 30-year-old man who enjoyed vigorous exercise.

Dr. Kossmann's Note:

Certain aspects of the CASS study could have been predicted. Every internist has seen patients with coronary disease of 10 to 25 years' duration, sometimes with angina alone, more often with multiple infarcts with or without angina between them. The study succeeded in culling out the highrisk left main lesions and patients with diminished cardiac reserve (impaired ventricular function), resulting in the unexpectedly low mortality in patients assigned to either treatment modality. It is to be hoped that a follow-up of at least ten years will be possible when a better separation of the medical and surgical groups may be possible.

Recruitment for study of the low-risk patients from the CASS registry amounted to 12.7%. Thus, the practicing physician can probably expect 1 in 8 patients with coronary disease to run a relatively benign course if left main disease can be excluded, preferably by noninvasive means such as digital subtraction angiography. It is also expected that the astute clinician will eliminate from diagnosis of coronary disease at least half of the 28.9% of patients in the registry who demonstrated no or minimal coronary disease on angiography. If these speculations approach reality, they mean 1 in 4 patients with coronary disease might be spared the invasive study that seems to be so universal in the coronary workup today.

Although this patient required a bypass graft, the left anterior descending artery can be opened in suitable cases by percutaneous transluminal coronary angioplasty (PTCA) with some possi-

bility of permanency. This therapeutic modality is being investigated intensively at present for both chronic and acute coronary occlusion with and without the use of thrombolytic agents when indicated. In view of the speed with which new approaches (some successful) are being introduced for the treatment of what must be regarded as an epidemic disease, the cardiologist cannot rest easy for very long with his own concept of the management of coronary disease. Further, and as in the past, the therapy will have to be custom-tailored to the specific subset of subjective and objective manifestations presented by each patient.

REFERENCES

- Favoloro RG: Saphenous vein autograph replacement of severe segmental coronary artery occlusion: Operative techniques. Ann Thor Surg 5:334, 1968.
 Garrett HE, Dennis EW, DeBakey ME: Aortocoronary bypass with sa-
- phenous vein graft. JAMA 223:792, 1973.
- 3. Detre K, Peduzzi P, Murphy M, et al: Effect of bypass surgery on survival in patients in low and high-risk subgroups delineated by the use of simple clinical variables. Circulation 63:1329, 1981
- European Coronary Surgery Study Group: Prospective randomized study of coronary bypass surgery in stable angina pectoris. Lancet 2:1173, 1982.
- 5. CASS Principal Investigators and their Associates: Coronary artery surgery study (CASS); a randomized trial of coronary artery bypass surgery. Survival data. Circulation 68:939, 1983.
- 6. CASS Principal Investigators and their Associates: Myocardial infarction and mortality and the coronary artery surgery study. Randomized trial. N Engl J Med 310:750, 1984.
 - 7. Campeau L: Grading of angina pectoris. Circulation 54:522, 1976.
- 8. Braunwald E: Effects of coronary artery bypass grafting on survival; implications of the randomized coronary artery surgery study. *N Engl J Med* 309:1181, 1983.
- 9. Rahimtoola SH: Coronary bypass surgery for unstable angina. Circulation



in forty-eight hours—without CF antibody

In 1492 the world was assumed to be flat. In 1985 skin testing for Histoplasmosis is assumed, by some, to induce CF antibody titer changes.

Both assumptions have been proven false.

You most likely know about the world being round, but you may not know that Histolyn-CYL, a specific, inexpensive, easy to use skin test, can give you results

titer changes.

Clinically proven.

For more information and clinical facts call, or write to:

BERKELEY BIOLOGICALS 1831 Second St. Berkeley, CA 94710 (415) 843-6846

1985 Berkeley Biologicals

1493

Blunt Duodenal Disruption

GLEN P. WARD, M.D.; TIMOTHY C. FABIAN, M.D.; and EUGENE C. MANGIANTE, M.D.

The management of duodenal injury following blunt trauma presents a most challenging diagnostic and therapeutic problem. Because of its retroperitoneal location, the clinical presentation is often vague and insidious, yet unless the diagnosis is expeditiously made and repair accomplished, contamination from leakage of bowel contents will initiate severe chemical and bacterial peritonitis, making delayed repair tenuous, and leading to anastomotic leakage, sepsis, and death.

Case Report

Ninety minutes prior to his arrival at the Presley Trauma Center, a 34-year-old white man was involved in a motor vehicle accident followed by a complaint of abdominal pain. The patient was the driver and not wearing a seat belt; he had struck his abdomen on the steering column. His blood pressure on admission was 136/80 mm Hg, pulse 100/min, and respirations 28/min. The patient was alert and oriented, with normal chest, extremity and neurologic findings. Only a small epigastric abrasion, epigastric tenderness and guarding, and hypoactive bowel sounds were noted. His hematocrit was 42% and WBC count 12,600/cu mm; electrolytes, serum amylase, urinalysis and x-rays of the cervical spine, chest and abdomen were normal.

One hour later abdominal tenderness had increased. After 2 gm of cefoxitin were administered, abdominal exploration was performed through an upper transverse incision, revealing only a right upper quadrant retroperitoneal hematoma with bile staining and crepitance. When the hematoma was explored, a hemitransection of the third portion of the duodenum was found. After debridement it was closed in two layers, and a Stamm gastrostomy and retrograde Witzel tube jejunostomy were performed for duodenal decompression, with an antegrade Witzel jejunostomy for enteric feedings. Antibiotics were discontinued and enteric feeding begun on the first postoperative day. A gastrograffin swallow on day seven showed no evidence of suture line leakage or narrowing of the duodenal lumen.

Discussion

Though injuries to the duodenum from blunt abdominal trauma are uncommon, they are certainly not rare, having been reported in up to

From the Department of Surgery, University of Tennessee Center for the Health Sciences, 956 Court Ave., Memphis, TN 38163.

5% of such patients, the majority being following automobile accidents.1 The typical patient is a young man, driving without a seat belt, who has struck the steering wheel upon impact. There have been several proposed mechanisms of injury. First, the impact may push the anterior abdominal wall against the spine, trapping and tearing the interposed portion of duodenum. Cocke and Meyer² postulated a second mechanism in which the closed pylorus and the acute angle of the ligament of Treitz formed a closed loop which could be perforated by increased pressure due to blunt trauma. A third mechanism is upward displacement of the liver and diaphragm caused by a blow to the abdomen, creating a shearing force between the mobile and fixed portions of the duodenum, resulting in tears at the pylorus or ligament of Treitz.

Preoperative Evaluation

At initial evaluation of the patient large bore intravenous lines, Foley catheter, and nasogastric tube should be inserted, and general resuscitative measures should be initiated. Blood should be typed and cross-matched, and complete blood count, serum amylase, and urinalysis should be obtained.

The single most important aspect of the diagnosis is repeated physical examination of the abdomen. Since most of the injuries are retroperitoneal, the patient may have few or no symptoms initially, but within a few hours abdominal tenderness will nearly always develop, accompanied by variable flank and back pain and hypoactive bowel sounds. Pain referred to the testis is considered a classical sign of duodenal injury but occurs infrequently. Nausea and vomiting often occur. Hematologic studies are usually not helpful; the serum amylase has been reported elevated in 70% of patients, and the white cell count may be moderately elevated but is often normal.³

When the physical examination is unreliable or equivocal, peritoneal lavage should be done, but because of the largely retroperitoneal position of the duodenum, unless the patient has associated intraperitoneal pathology lavage is frequently negative.

PA and lateral chest films and flat and upright x-ray studies of the abdomen should be obtained routinely. The posterior wall of the second portion of the duodenum lies in close proximity to the right renal hilum, and the third portion of the duodenum is separated from the spine by the psoas muscle. The distal portion of the duodenum is in contact with the transverse mesocolon, and is a frequent location of emphysema. Thus, air around the right kidney and upper border of the right psoas muscle are specific indications of duodenal rupture. Retroperitoneal air bubbles in the transverse mesocolon may also be present but are very difficult to distinguish from feces in the bowel lumen. Nonspecific radiographic findings suggestive of retroperitoneal, but not necessarily duodenal, injury are scoliosis, obliteration of the renal and psoas outlines, and segmental ileus. For the patient in whom the diagnosis is equivocal, a gastrograffin upper gastrointestinal series can be done to rule out perforation. This can also occasionally make the diagnosis of intramural duodenal hematoma by giving the classical "coiled spring" appearance; in selected cases it can be treated nonoperatively.

Early repair is imperative before extravasated bowel and pancreatic contents cause chemical peritonitis, cellulitis, and necrosis. A 65% mortality has been reported if laparotomy and repair is delayed over 24 hours, while if repair is carried out less than 24 hours after injury, mortality drops to 5%. An average interval from injury to operation of 9.3 hours for survivors and 16.3 hours for non-survivors has been reported, emphasizing the need for rapid diagnosis and early operation. Other factors that increase morbidity and mortality are associated intra-abdominal injuries, especially combined duodenal and pancreatic injuries.

Operative Procedure

Once the decision for laparotomy has been made, preoperative antibiotics are administered and exploration of the abdominal cavity is carried out through a midline or upper transverse incision. The pancreas should be examined for a defect over the spine, and the omentum and transverse mesocolon inspected for fat necrosis.

Bile staining, retroperitoneal air, or exudate are almost pathognomonic of duodenal rupture. Retroperitoneal hematomas involving the pancreas or duodenum should always be carefully explored, as well as the organs themselves. During the examination, the entire duodenum from pylorus to ligament of Treitz should be thoroughly exposed, since a missed injury to the duodenum during laparotomy is highly lethal because of the inability to adequately evaluate the postoperative abdomen. The Kocher maneuver exposes the C-loop of the duodenum, and for exposure of the third and fourth portions the maneuver of Cattell and Braasch4 should be performed. This involves incising the peritoneal attachments of the right colon and the mesentery of the small bowel along the lines of embryologic fusion. The right colon, small bowel, and superior mesenteric vessels can then be lifted cephalad and medially, exposing the third and fourth portions of the duodenum. Occasionally, the ligament of Treitz requires incision to expose the most distal portion of the duodenum.

Techniques involving surgical repair of the ruptured duodenum are varied. The surgeon should be familiar with several options in repair, tailoring them to meet the specific type of injury. Important factors influencing the decision for type of repair include whether the injury is intraperitoneal or retroperitoneal, the size of injury, degree of contamination, presence or absence of shock, length of time from injury to repair, and the presence or absence of an associated pancreatic injury.

Decompression of the duodenum is an important aspect of repair in extensive or retroperitoneal injuries. Several methods of duodenal decompression have been reported to prevent suture line leakage and anastomotic disruption. A very effective method of decompression is utilization of gastrostomy plus twin jejunostomies.5 Following two-layer closure of the duodenal injury, a Stamm gastrostomy is constructed along with Witzel retrograde jejunostomy to the area of injury. This effectively decompresses the duodenum by removing gastric, biliary, and pancreatic secretions, which decreases the rate of suture line dehiscence. Antegrade tube jejunostomy is added for feeding purposes, and can also be used to reintroduce diverted secretions, which offers the advantages of being both quick and simple, avoiding an extra suture line and obviating the need for long-term nasogastric intubation. Application of a jejunal serosal patch, segmental re-

APRIL, 1985 225

section with reanastomosis, duodenojejunal anastomosis, and gastrojejunostomy have all been used successfully in the repair of duodenal injuries. Penrose or closed system drainage devices are not recommended to drain a duodenal inju-

How to best treat an associated injury to the pancreas may be a difficult decision. A mild pancreatic contusion with edema or a small laceration to the capsule without ductal injury can be managed by external drainage. For more extensive injuries of the duodenum and pancreas, diversion of gastric contents by diverticulization as described by Berne et al⁶ has been advocated. This involves suture closure of the duodenal injury, gastric antrectomy with end-to-side gastrojejunostomy, tube duodenostomy, and drainage. Another method of diverticulization, which eliminates the need for gastric resection and creates temporary exclusion of the duodenum from normal gastrointestinal flow, is pyloric exclusion, as reported by Vaughn et al,7 consisting of duodenal repair and suture closure of the pylorus through

a gastrotomy incision on the greater curvature, which is then converted into a side-to-side gastrojejunostomy.

Pancreaticoduodenectomy carries a high mortality and should be avoided if possible. For a severely fractured head of the pancreas with duodenal injury and devascularization or tissue necrosis, however, there may be no alternative. In such circumstances the injury has essentially produced a resection, and the operation becomes a cleanup procedure with reestablishment of gastrointestinal continuity.

REFERENCES

- 1. Roman E, Silva YJ, Lucas C: Management of blunt duodenal injury. Surg Gynecol Obstet 132:7-14, 1971
- Cocke WM, Meyer KK: Retroperitoneal duodenal rupture, proposed mechanism, review of literature and report of case. Am J Surg 108:834-839, 1964.
 Fabian TC, Mangiante EC, Millis M: Duodenal rupture due to blunt trauma. South Med J 77:1078-1092, 1984.
- 4. Cattell RB, Braasch JW: Technique for exposure of the third and fourth portion of the duodenum. Surg Gynecol Obstet 111:378, 1960
- 5. Stone HH, Fabian TC: Management of duodenal wounds. J Trauma 19:335-339, 1979.
- 6. Berne CJ, Donovan AJ, White EJ, et al: Duodenal "diverticulization" for
- duodenal and pancreatic injury. Am J Surg 127:503-507, 1974.
 7. Vaughn GD, Frazier OH, Graham DY, et al: The use of pyloric exclusion in the management of duodenal injuries. Am J Surg 134:785-790, 1977.

Peninsula Hospital

- Adult and Adolescent Psychiatric Programs
- Adult and Adolescent Chemical Dependency Programs
- 93 Beds Joint Commission Accredited
- Medical Detox
- Group, Individual and Family Therapy
- State Approved School Program
- Activity Therapy Programs Coping Skills Groups
- Speaker's Bureau Community Education
- Most Insurance Plans Accepted
- Specialized Programs for Stress, Depression, Sleeping and Eating Disorders
- 24 HOUR ADMISSIONS AND INFORMATION

PENINSULA HOSPITAL Jones Bend Road Louisville, Tennessee 37777

573-7913

970-9800



Home Health Care Vs. Nursing Home Care For the Elderly

JAMES S. POWERS, M.D. and CANDICE BURGER, Ph.D.

Introduction

The population over age 65 was estimated in 1975 to be 11% of the population and by the year 2030 it will be 17%. The elderly consume 3.4 times the cost of personal health care of those under age 65,2 which represents 29% of the total health dollar and 55% of the federal health dollar. This expense taken by the frail and chonically ill elderly is disproportionate, and as the numbers of the very old continue to increase the demand for care dollars can only escalate. There is, therefore, incentive to develop care that is less expensive or to reduce the public responsibility for that expense.

A major portion of the cost for the frail elderly comes in provision of institutional care, both in nursing homes and in hospitals. With the advent of prospective third party payments to hospitals and the anticipated shortening of stay for the old, the use of alternate facilities may become more attractive. Nursing homes may benefit from this need and so may home health care organizations.

One unsettled question concerning this replacement of acute bed care with institutional or home-based care is that of total cost. If one of the major incentives for continued development and research of home-based care is the provision of equivalent care at a lesser cost, then it would be important to establish that this type of care does indeed reduce costs.⁵⁻⁷ Unfortunately, research into the utility and cost of home health

care as an alternative resource to institutional care is characterized by several problems, among them comparisons of dissimilar groups, establishing the equality of severity of disease between patients in the two settings, and determining the real costs of their care.⁸

By using retrospective analysis of comparably matched nursing and home health care cohorts over a six-month period, this report will examine both the cost of care and the medical, economic, and social factors involved in nursing home and home health care of the infirm elderly. The subjects were chosen from the practice of one of us (JSP).

Materials and Methods

Cohorts of ten patients each were selected from among nursing home residents and from patients receiving home health care. The patients were chosen from the practice of a full-time faculty internist from Vanderbilt University Medical Center. The practice pool consisted of 35 nursing home patients visited one to two times monthly by the internist, and 22 patients receiving home health services who were seen in the office every one to three months. Excluded from consideration in this study were patients who died, had evidence of a neoplastic process in the last five years, or had a history of a major psychiatric disorder. The patient groups were matched for age (five-year increments), sex, race, marital status, financial class, occupation, education, types of services required, and major diagnostic categories. Also matched were ancillary services and use of appliances. As activities of daily living (ADL) is considered crucial in predicting the impact of illness on the functioning of the elderly,9,10 the ADL evaluation of Katz11 was utilized to provide a summary measure of the functional level based on activities of bathing, dressing, toi-

From the Division of General Internal Medicine, Vanderbilt University Medical Center, Nashville.

Preparation of this report was assisted by grants from the Robert Wood Johnson Foundation and the Tennessee Foundation for Geriatric Education.

Reprint requests to Division of General Internal Medicine, Vanderbilt University Medical Center, Nashville, TN 37232 (Dr. Powers).

leting, transfer, continence and feeding. Additionally, to provide data on patients' global outlook, fortitude and motivation was rated by the physician as independent (vivacious and maximally active), complacent (dull, volunteering little), or frail (hopeless outlook, or vegetative).

This assessment was independently verified in the nursing home cohort with 80% agreement by another physician who had intimate knowledge of the patients.

Patient data were collected for a six-month period after entry into the nursing home or the

TABLE 1
TABULAR CHARACTERISTICS OF HOME CARE PATIENTS

Case	Age/ Race/Sex	Occupation	Residence	Major Diagnosis	ADL/Appliances	Number of Medications	Outlook	Ancillary Services	
1	76/B/F	nurse's aid	with husband and children	stroke, aphasic	nasogastric tube bed to chair	4	frail	private duty nurse	
2	78/W/M	salesman	with wife	stroke	walker	5	independent	nurse	
3	73/W/F	factory worker	with husband	diabetes blindness	walker	5	frail	nurse, home and physical therapy	
4	69/B/F	maid	with daughter	stroke	bed to chair	4	complacent	nurse	
5	77/B/F	maid	with sister	peripheral vascular disease	amputation	5	independent	nurse, physical therapy	
6	67/B/F	none	with sister	cerebral palsy	erebral palsy wheelchair 7		complacent	nurse	
7	74/W/M	clerk	alone	arthritis	walker	3	frail	nurse, home aid	
8	90/B/F	seamstress	alone	asthma	walks ad lib	3	complacent	nurse	
9	85/W/F	none	alone	stroke	walker	4	independent	nurse	
10	73/W/F	factory worker	with husband	emphysema	walks ad lib	6	independent	nurse	

TABLE 2
TABULAR CHARACTERISTICS OF NURSING HOME PATIENTS

Case	Age/ Race/Sex	Occupation	Prior Residence	Major Diagnosis	ADL/Appliances	Number of Medications	Outlook	Ancillary Services
1	84/B/F	cook	alone	stroke	wheelchair urinary catheter	5	complacent	physical therapy
2	76/B/M	railroad worker	with wife	stroke	urinary catheter bed to chair	5	complacent	
3	77/W/F	clerk	with husband	stroke, aphasic	bed to chair nasogastric tube urinary catheter	5	complacent	
4	85/B/M	truck driver	alone	stroke	walker	7	frail	
5	84/B/F	maid	alone	blind	bed to chair	3	complacent	
6	81/B/F	pharmacy technician	alone	stroke	wheelchair	5	complacent	physical therapy
7	87/B/F	cook	alone	hip fracture	walker	6	frail	physical therapy
8	74/W/F	factory worker	alone	Parkinson's disease	walks ad lib	7	frail	
9	65/W/F	none	alone	emphysema	bed to chair oxygen 24°	8	complacent	
10	82/W/F	none	alone	Parkinson's disease	bed to chair	7	frail	

initiation of home health care following hospitalization. Two subjects in the home care group were one- to two-month temporary nursing home residents following hospitalization. In two other home health care patients who had been stable for many years, the most recent six-month period was chosen for analysis.

Outcome variables included numbers of medications, laboratory tests, physician visits, and hospitalizations. Information about the costs for patients in each of these groups was based on charges and collected in the following categories: housing and maintenance, pharmacy and supplies, laboratory fees, physician fees, hospitalization, and special services (e.g., physical therapy, home nursing). Room and board costs for institutional residents were gathered from nursing home monthly charges. Living costs for single, community-dwelling elderly people (like those who were receiving home care) were estimated from U.S. Department of Labor indices. 12,13

Results

Tables 1 and 2 describe the two groups by matched independent variables. They were comparable for most measurements (P > .05), except that nursing home patients were more likely to be Medicaid recipients and there was a signif-

TABLE 3
MEAN VALUES FOR DEPENDENT VARIABLES OVER SIX MONTHS

Variable	Nursing Home Group	Home Care Group	All Patients	P
Physician visits	5.9	5.6	5.8	ns
Hospitalization rate Numbers laboratory	.2	.2	.2	ns
tests	4.1	4.4	4.3	ns
Cost Analysis				
Hospital charges	\$ 1,069	\$2,133	\$1,601	ns
Physician charges Charges laboratory	\$ 216	\$ 126	\$ 171	.0046
tests	\$ 112	\$ 117	\$ 115	ns
Medication charges Ancillary service	\$ 759	\$ 210	\$ 484	ns
charges* Nursing home	\$ 740	\$2,006	\$1,373	ns
charges† Estimated living	\$ 7,628			
expenses		\$2,922		
Total cost	\$10,524	\$7,514	\$9,019	ns

^{*}Does not include estimate of cost for family member caretakers. †Includes room and board as well as nursing care.

icant difference between the groups on the overall ADL score (P < .05). A chi-square analysis of the ratings, within the six categories making up the ADL scale, suggested that the nursing home patients had a tendency toward more incontinence and feeding difficulties than the home health care patients.

Table 3 depicts the study variables. There was no significant main effect in the multiple analysis of variance conducted on the total cost information (P > .05). The groups did not differ in regard to cost of medication, hospitalization, laboratory tests or housing and maintenance costs. The univariate effect for physician cost did reach a traditional significance level (P = .0046) which might suggest a trend in the direction of increased physician cost for the nursing home patients.

Neither were the groups significantly differentiated in the multivariate analysis by the number of medications being taken, the number of laboratory tests performed, or the number of hospitalizations during the six-month period of the study (P > .05).

Discussion

The infirm elderly require a lot of medical attention. Our patients were seen on an average of once a month by a physician, took many medications, and had an average cost of care of approximately \$18,000 per year.

Home health care per se does not appear to be less costly than institutionalization. For our sample, the numbers, types, and costs of services were quite similar despite the greater incontinence and feeding difficulties of the nursing home cohort. Authors who indicate that home health care may be less costly than institutionalization underestimate the costs of living at home. 14,15 By accepting care of an elderly family member, families forgo jobs and wages, thus effectively increasing the cost of home care. Family members function as unpaid health care workers, and their involvement has been shown to be crucial. 16-18 While the cost of maintaining a home was included, these other unseen family costs are also not part of the current estimates. With home care, professional charges are shifted to home health agencies.

There are problems in selecting patients with similar initial health levels in studies comparing the medical outcome of elderly patients receiving home care vs. nursing home care.¹⁹ Our data support the position that, so far as financial con-

siderations are concerned, home health care can be advocated perhaps only when disability is not severe and there is a desire to prevent or delay unnecessary institutionalization.

Our clinical impression is that family and patient satisfaction is a key consideration in the choice between home care and nursing home placement, and therefore worthy of further study. Certain disabilities, such as incontinence and feeding difficulties, may limit the family's ability to undertake home care.

Currently, we have little idea of the magnitude of the demand or need for home health services.²⁰ Indeed, some authors have suggested that home care may be targeted to a population that would not have been admitted to the hospital either because they were too sick or too well, or to the nursing home because of patient condition or family preference.⁵ In that case, the demand for home health care would be added to health costs rather than supplanting the cost of some institutional care. The suggestion for decertification of institutional beds in the wake of increased home care delivery would leave needy patients without care.⁶

Because of the lack of regulation and the greater decentralization of service, the provision of home care may indeed prove to be more expensive than similar care provided in institutions. Certainly, the establishment of home health care has not clearly reduced the use of hospital and nursing home resources to date.

With the expected increased demands for health services for the infirm elderly, plans to decertify nursing home services in order to maintain a stationary capacity may be premature. These issues certainly deserve further exploration if as a society we are to understand the place of and appropriately allocate resources to home care for the increased numbers of elderly patients for which we will be responsible in the near future.

Acknowledgement:

The authors thank Eric B. Larson, M.D. and James M. Perrin, M.D. for their kind suggestions and review of the manuscript.

REFERENCES

- 1. U.S. Bureau of the Census. Current population reports. Series P-25, no 704: Projections of the Population of the United States 1977 to 2050. Washington DC, U.S. Government Printing Office, 1977, p 14, Table I. Estimates and projections of the population 65 years and over and of the median age: 1975 to 2040.
- 2. Pegels CC: Health care expenditures for the elderly: who pays for them? Primary Care—Geriatric Medicine 9(1):249-255, March 1982.
- 3. Farber SJ: Development of geriatrics, in *Proceedings of the Regional Institutes on Geriatrics and Medical Education*. Washington, DC, Association of American Medical Colleges, 1983, pp 3-22.
- American Medical Colleges, 1983, pp 3-22.
 Freeland M, Calat G, Schedler CE: Projections of national health expenditures, 1980, 1985, 1990. Health Care Financing, Rev. 1:1-27, 1980.
- itures, 1980, 1985, 1990. Health Care Financing Rev 1:1-27, 1980.

 5. Wade DT: Augmented home nursing as an alternative to hospital care for chronic elderly individuals, letter. Br Med J 284:739, 1982.
- Kane RL, Kane RA: Alternatives to institutional care of the elderly: beyond the dichotomy. Gerontologist 20:240-259, 1980.
- 7. Braun P, Kochansky G, Shapiro R, et al: Overview: deinstitutionalization of psychiatric patients, a cricital review of outcome studies. *Am J Psychiatry* 138:736-749, 1981
- 8. Garner JD. Mercer SO: Meeting the needs of the elderly: home health care or institutionalization. *Health Soc Work* 7:183-191, 1982.
- 9. Katz S, Branch L, Branson M, et al: Active life expectancy. N Engl J Med 309:1218-1224, 1983.
- 10. Cluff L: Chronic disease, function, and the quality of care. *J Chronic Dis* 34:299-304, 1981.
- 11. Katz S, Downs TD, Cash HR, et al: Progress in development of the index of ADL. Gerontologist 10:20-30, 1970.
- US Department of Labor, Bureau of Labor Statistics. Handbook of Labor Statistics. Bulletin 2070, December 1980.
 US Department of Labor, Bureau of Labor Statistics. News Release,
- July 30, 1982.
- 14. Ruchlin HS, Morris JN: Pennsylvania's domiciliary care experiment: II cost-benefit implications. *Am J Public Health* 73:654-660, 1983.
- 15. Steel KI, Markson E, Crescenzi C, et al: An analysis of types and costs of health care services provided to an elderly inner-city population. *Medical Care* 20:1090-1100, 1982.
- Powers JS: Nursing home discharges in clinical practice. J Tenn Med Assoc 76:777-779, 1983.
- 17. Weissert WG, Wan TTH, Livieratos BB, et al: Cost effectiveness of homemaker services for the chronically ill. *Inquiry* 17:230-243, 1980.
- 18. Dunlop BD: Expanded home-based care for the impaired elderly: solution or pipedream? Am J Public Health 70:514-519, 1980.
- Roos NP, Shapiro E: The Manitoba longitudinal study on aging. Preliminary findings on health care utilization by the elderly. Med Care 19:644-657, 1981.
- 20. Sharma RK: Forecasting need and demand for home health care: a selected review. *Public Health Rep* 95:572-579, 1980.

PSYCHIATRY CONSULTATION SERVICE

Confidential, prompt and professional consultation regarding hospital-based psychiatric services, mental health centers, clinics, alcohol and substance abuse or other mental health units may be secured from the Consultation Service of the American Psychiatric Association. A consultation plan will be tailored to the particular issues and problems to be addressed. Reasonable charges are based on the scope of the consultation. For information write to Ms. Claudia Hart, Coordinator, Consultation Service, American Psychiatric Association, 1400 K Street, N.W., Washington, D.C. 20005, or call Bert Pepper, M.D., Director, Consultation Service, (914) 354-0200, ext. 2377. All inquiries will be handled in a confidential manner.

CAT Scan of the Month

JAMES H. MONTGOMERY, M.D. and STEPHEN L. GAMMILL, M.D.

A 65-year-old man complained of weight loss and cough. He has no abdominal symptoms or signs. Please examine Figs. 1 and 2 and choose the most likely diagnosis.

- (1) Tuberculosis
- (2) Wilm's tumor
- (3) Squamous cell carcinoma of lung
- (4) Renal cell carcinoma
- (5) Adrenal adenoma

Discussion

The chest roentgenogram demonstrates a mass in the left lung. The abdominal CT scan, taken through the area of the liver, kidneys, and adrenals, shows a mass just above the left kidney. Considering the age, history, and the images shown, squamous cell carcinoma of the lung with adrenal metastasis is the most likely diagnosis.

Lung carcinoma is the most frequent cancer in men and is exceeded only by breast and colorectal carcinoma in women.¹ More people die from lung cancer than any other type, regardless of sex.¹ Lung carcinoma is the most common primary tumor metastasizing to the adrenals, which is seen at autopsy in about a third of patients with lung cancer.²⁻⁴ All types of primary lung cancers metastasize to the adrenal, but it occurs most commonly with adenocarcinoma or squamous cell carcinoma. Most of these metastases are asymptomatic, even though achieving large size.

Since adrenal metastases occur frequently, examination of the upper abdomen has been recommended during CT scanning for non-oat cell carcinoma of lung. If no adrenal lesion is seen, resection for cure is possible. If small cell carcinoma (oat cell) of the lung is diagnosed, excision of the primary tumor is not curative, and thus, incidental adrenal scanning is not useful.

FINAL DIAGNOSIS: Squamous cell carcinoma of the lung with adrenal metastasis.

REFERENCES

- 1. National Cancer Institute's Surveillance, Epidemiology and End Results (SEER) Program (1973-1979). Cancer 34:7, 1984.
- Sandler MA, et al: Computed tomographic evaluation of the adrenal gland in the preoperative assessment of bronchogenic carcinoma. Radiology 145:733-736, 1982.
- 3. Abrams HL, Spiro R, Goldstein N: Metastases in carcinoma. Cancer 3:74-85, 1950.
- 4. Engelman RM, Mc Namara WL: Bronchogenic carcinoma; a stastical review of 234 autopsies. J Thorac Surg 27:227-237, 1954.

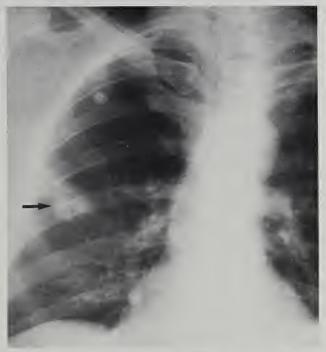


Figure 1. Chest roentgenogram with a mass in the right lung (arrow).

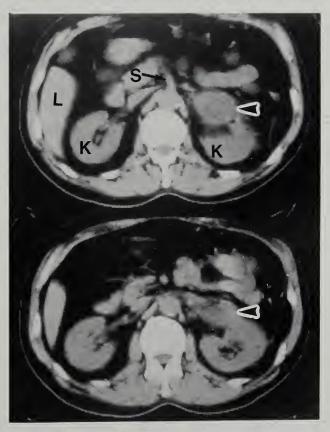


Figure 2. Body CT through the inferior aspect of the liver (L), kidneys (K), and superior mesenteric artery (S with arrow). A mass is seen superior and anterior to the left kidney (arrowhead).

APRIL, 1985 231

From the Department of Radiology, Baptist Memorial Hospital, 899 Madison Ave., Memphis, TN 38146.

Our Goal: Preventing or Minimizing Patient Injury

J. KELLEY AVERY, M.D.

Case Report

An ophthalmologist treated a 30-year-old man who was an insulin-dependent juvenile diabetic since age 5. The ophthalmologist had an unwritten agreement with the hospital he used that he took care of only diseases of the eye and that other conditions his patients might have or develop would be the responsibility of the hospital. During the time in question, the anesthesiologist was supposed to take care of "the other medical problems" and a moonlighting orthopedic resident was employed by the hospital to "cover" at night. The anesthesiologist had an internist who had agreed to help in the management of this patient if necessary.

The ophthalmologist did a trans pars plana vitrectomy and scleral buckling with encircling band because of proliferative diabetic retinopathy. The operation was done under general anesthetic; the surgery went well and the patient went to the recovery room at 10:20 am. In the recovery room, the patient was "lethargic but responsive to commands." About one hour and forty minutes after admission to the recovery room the patient was asleep, but could be awakened easily. Blood pressure was 136/76 mm Hg, blood sugar by Dextrostix was acceptable at 200 mg/dl, and the patient was discharged to his private room at 12:10 pm. Neither the operating surgeon nor the anesthesiologist saw the patient in the recovery room, but transfer to his room was made according to hospital protocol. The surgeon did not see his patient the rest of the day.

Postoperative orders specified that the patient be kept in the "seated face down position," accomplished by having the patient sitting up in bed with his arms folded across a Mayo stand and his head resting on his arms. The ophthalmologist was to be consulted only regarding eye problems; the anesthesiologist and/or the resident were to be called about any other problem. The resident was not informed of this agreement.

At 3:30 pm the patient was "alert and responsive to verbal stimuli," and the position was maintained. At 7:30 pm, however, the nurses noted that the patient was "unresponsive to verbal stimuli," the blood pressure was 80/50 mm Hg, and a Dextrostix was found to be 80 mg/dl. Stat blood sugar was ordered and reported at 76 mg/dl. At 8:00 pm the resident was called. He came and administered 50 cc of 50% dextrose in water by I.V. push, noting that the patient was unresponsive but complained of pain in his eye and both arms.

At 1:35 am when the nurse attempted to sit the patient on the bedside to void, the patient was found to have no sensation in his legs, and could not move either of them. The resident was immediately notified and arrived at 1:40 am. After examining the patient, the resident called the surgeon and reported his findings, but there was no documentation of this call by either of them. The resident insisted that he was told that the complaints were probably due to positioning and

to put the patient in the prone position. The resident also insisted that the ophthalmologist said that if the patient did not improve with the change of position that he (the ophthalmologist) would call in a neurologist. The surgeon, however, said that the resident only called requesting a position change because of the patient's complaints of numbness.

The resident ordered the patient placed in the prone position but did not reexamine him before leaving the hospital at 6:00 am. Nurses notes were made during the night but the patient was not checked by the nursing staff between 2:00 am and 6:00 am, and the surgeon made no inquiry during the night as to whether his patient's condition had improved or not.

At 6:00 am it was found that the patient still could not move his legs, but only after the patient complained at 8:20 am of no feeling or movement in his arms or legs was action taken. The anesthesiologist was called, and at 9:00 am the surgeon checked the patient and said he was consulting a neurosurgeon. At 11:00 am the patient was actually examined by the anesthesiologist; a neurosurgeon examined him at 11:30 am, and arrived at a diagnosis of (1) possible C6 cord lesion, (2) with a vascular lesion, traumatic injury, or Guillain Barré syndrome to be ruled out. In the university center, after further diagnostic studies, a cervical laminectomy was done at C3-4-5 to decompress the cord, culture the area, and perform a biopsy. Postoperative diagnosis was probable infarction of the cord, but cultures grew out alpha streptococcus, not group D. The neurosurgeon then changed his opinion to "transverse myelopathy, probably due to abscess." When quadriplegia persisted, the operating neurosurgeon still later changed his opinion favoring infarction of the cord.

Defense theory, supported by expert testimony: The vascular lesion and/or infectious process was the result of this patient's longstanding diabetes, and postoperative management did not contribute to the result.

The plaintiff's theory, supported by expert testimony: The postoperative positioning produced pressure on the cervicle vessels causing infarction, producing the result.

Loss Prevention Notes

All parties were clearly below an acceptable standard of care in the postoperative management of this case. The ophthalmologist did not examine his patient postoperatively the day of the surgery, even when he knew there were some questions about his condition. His "unwritten agreement" with the hospital, attempting to avoid responsibility for the overall management of his patient, was not only below the standard of care but ethically offensive.

The resident's failure to pursue the investiga-

Dr. Avery is medical director of State Volunteer Mutual Insurance Company.

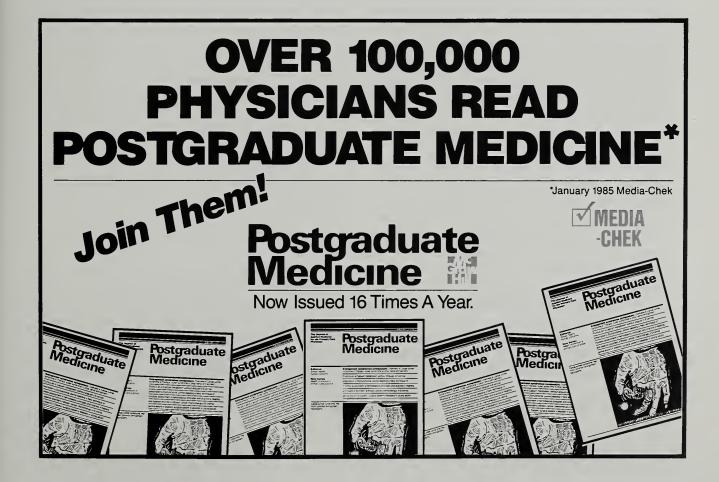
tion of his findings of some neurological deficit by subsequent examinations and calling again for help was below any acceptable standard for a resident.

The anesthesiologist's failure to adequately ascertain the patient's preoperative status, failure to meticulously follow the patient postoperatively, and failure to act immediately on the knowledge of a neurological problem the morning after surgery were held by experts to be below an acceptable standard of care.

The hospital nurses' failure to follow this pa-

tient closely after they found that he was "unable to move his legs" was certainly below the standard. (They failed to examine the patient between the hours of 2:00 am and 6:00 am.)

These are only the most glaring problems in this case. Defense was rendered virtually impossible by substandard care in the face of this most serious postoperative complication. The patient's injury might well have been unavoidable, but his postoperative care was not pointed in the direction of preventing injury, or if it could not be prevented, of minimizing its effect.



APRIL, 1985 233

Statewide Genetics Program

DOROTHY J. TURNER, M.D., MPH

Each year in the United States about 250,000 infants are born with birth defects and it is estimated that 3%, or 2,000, of the 65,000 infants born in Tennessee each year will be afflicted with birth defects and genetic problems. Some of the most frequent conditions are cleft lip and palate, neural tube defects, hemoglobinopathies, cystic fibrosis, phenylketonuria, hypothyroidism and Down's syndrome.¹

Birth defects in Tennessee constitute the third most common cause of death up to 14 years of age. In fact, 21.5% of infant deaths in this state in 1983 were due to congenital anomalies.¹

For many genetic conditions, early detection and treatment can result in fewer problems and side effects. This makes it essential that individuals who have a genetic condition, who are at risk of developing one, or who have a higher risk of having an infant with a genetic abnormality have access to comprehensive genetic services. These services include:

- Diagnostic evaluations (and syndrome identification)
- Consultation with physicians and other health care professionals
- Genetic counseling and prenatal diagnosis
- Newborn metabolic screening for conditions such as phenylketonuria (PKU) and hypothyroidism as well as consistent, comprehensive evaluations and follow-up to maintain treatment
- Sickle Cell Program including education, screening and counseling
- Education through presentations and workshops on genetics and genetics services for health care professionals, special interest groups, and the general public.

Legislation has been introduced that would

enable the establishment of a statewide genetics program, which would include the existing newborn screening services for PKU and hypothyroidism, the statewide sickle cell screening program, and the regionalized genetic services program. A genetics advisory committee would be established to advise the Commissioner of Health and Environment on the operation of the program. Should this legislation be passed, the genetics program would function to see that quality genetics services are available in Tennessee much as the Perinatal Program does for perinatal services.

Services for screening, testing, and counseling would be provided through a statewide network, including the state laboratory and the Maternal and Child Health Section, six medical centers, the Memphis Regional Sickle Cell Council, the Meharry Sickle Cell Program, the U.T. Child Development Center, and a number of satellite clinics. These services will be for those individuals who have, or are at risk of developing, genetic disorders.

Physicians in remote areas may not always get the word about the genetics services available in their region and how they can best utilize them. A big component of this statewide genetics program would be to get this information to practicing physicians.

The Tennessee Department of Health and Environment has invested heavily in providing or securing good prenatal and perinatal care as well as comprehensive care services for mothers and infants. Taking the responsibility for seeing that quality genetics services are available and accessible to Tennesseans is the next logical step and carries the potential for great prevention benefits.

REFERENCES

^{1.} Tennessee Department of Health and Environment, Division of Vital Statistics-1983.

From the Tennessee Department of Health and Environment, Nashville. Dr. Turner is director of Center Based Programs of the Maternal and Child Health Section of TDHE.

president's page



THOMAS K. BALLARD

The Swan Song

Have you ever had the opportunity to hear the melodious notes that a trumpeter swan makes as he ascends into the sky from his resting place, or as he glides through the air in his quest for peace? I have had that opportunity and once you hear the notes that he makes you will never forget them. I do not have the ability to sound like a trumpeter swan, but in many respects in traveling throughout the state of Tennessee I have expounded the cause of our medical profession.

This has been a busy year, much busier than I ever anticipated. It only seems a short while since I was elected your President in Knoxville in 1984. Now it is time for me to turn over the reins of the Tennessee Medical Association to the capable hands of Dr. Clarence Sanders. I have had many rewarding experiences during the past year. I have been afforded the opportunity to speak before civic organizations, health care coalitions, component medical societies, and many other organizations, as a spokesman for the Tennessee Medical Association. I have had the opportunity to make many new friends, and to visit with old friends, some of whom I have not seen since 1935.

This year has not been without its problems however. The implementation of the Diagnosis Related Groups and the Prospective Pricing Systems has caused a great deal of controversy and consternation among the physicians of our state. This has often been painful to many of us. We may expect more intrusions into our practices in the future. I was assigned the task of serving on the Governor's Select Committee on Health Care Cost Containment, and attended every meeting which this committee had except one. The recommendations that this committee has made have gone to the governor and we must wait to see what he will recommend to the legislature of the state of Tennessee to help contain health care costs. In June 1984, I represented Tennessee as your President at the American Medical Association's annual meeting in Chicago. I have attended many of our committee meetings and participated in their deliberations. We have dedicated physicians who spend many hours working for the Tennessee Medical Association to further the high ideals of our profession. They have made my tenure much easier, and my deepest gratitude is extended to each one of them.

I would like to thank the members of the Tennessee Medical Association for their kindnesses and courtesies extended to Mary Frances and myself during the past year. I have been enriched by this experience, and have been enlightened by the many physicians and others with whom I have come in contact. My heartfelt thanks for giving me the opportunity to serve as your President for the past year.

James 16 Ballord in 1

THE NEW PRESIDENT



CLARENCE R. SANDERS, M.D. GALLATIN

CLARENCE R. SANDERS, M.D.

131st President—Tennessee Medical Association

Our 155-year-old association is fortunate again to see its growing membership guided by an outstanding President.

Our 131st President is Clarence R. Sanders, M.D., a Gallatin family physician who is well endowed with leadership qualities that make his selection a wise choice.

Dr. Sanders was born on July 21, 1931, in Dickson County. He graduated from Charlotte (Tennessee) High School in 1949 and received his bachelor of science degree in 1958 from Austin Peay State University in Clarksville.

He received his doctor of medicine degree from the University of Tennessee Center for the Health Sciences in Memphis in 1961, followed by an internship at Nashville General Hospital.

During 1951-55, he served in the U.S. Navy at Corpus Christi Naval Air Station and on the aircraft carrier *USS Kearsarge* in the Pacific during the Korean conflict.

Dr. Sanders is immediate past president of the Sumner County Medical Society and immediate past chairman of the TMA Board of Trustees. He is a member of the board of directors of IMPACT (Independent Medicine's Political Action Committee—Tennessee). Other memberships include the American Academy of Family Physicians and the Tennessee Academy of Family Physicians. He is a diplomate of the American Board of Family Practice.

As a member of the staff of Sumner Memorial Hospital in Gallatin, he is past chief of staff and past chairman of its Department of Family Practice.

Dr. Sanders is a member of the American Medical Association, College of Sports Medicine, Aerospace Medicine Association and the board of directors of the Mid-South Foundation for Medical Care, Tennessee's Professional Review Organization (PRO).

He has served as an aviation medical examiner for the Federal Aviation Agency and is team physician for the Gallatin High School football team.

His affiliations with civic organizations include the Chamber of Commerce, American Legion, Gallatin Rotary Club of which he was president, vice president of the Middle Tennessee Council of Boy Scouts of America, Masonic Lodge of Gallatin and Al Menah Shrine Temple.

Dr. Sanders and his wife, the former June Pelham of Dickson, have three children, Kevin, Susan and Paul.

He is a member of the First United Methodist Church of Gallatin, former chairman of its administrative board, former chairman of its Pastor-Parish Relations Committee and is a charter member of Methodist Men for Scouting.

Since its inception in 1830, the Tennessee Medical Association has been blessed to have a number of highly professional presidents to lead the Association. This year, we are again honored to have such leadership in the person of Clarence R. Sanders, M.D.

APRIL, 1985 245

journal of the tennessee medical association

PUBLISHED MONTHLY

DEVOTED TO THE INTERESTS OF THE MEDICAL PROFESSION OF TENNESSEE

OFFICE OF PUBLICATION: 112 LOUISE AVENUE, NASHVILLE, TN 37203

JOHN B. THOMISON, M.D., EDITOR

ADDISON B. SCOVILLE, JR., M.D., ASSOCIATE EDITOR
JEAN WISHNICK, MANAGING EDITOR

Acceptance for mailing at special rate of postage provided for in Section 1103, Act of October 3, 1917, authorized July 15, 1932

Copyright for protection against republication Journals of the American Medical Association and of other state medical associations may feel free to quote from this Journal whenever they desire merely giving credit to this publication

Address papers, discussions and scientific matter to: John B. Thomison, M.D., Editor, P.O. Box 70, Nashville, TN 37202

Address organizational matters to L. Hadley Williams, Executive Director, 112 Louise Avenue, Nashville, TN 37203

COMMITTEE ON SCIENTIFIC AFFAIRS

OSCAR M McCALLUM, M D , Chairman, Henderson SIDNEY L. BICKNELL, M D., Jackson WINSTON P. CAINE, M.D , Chattanooga CLAUDE H. CROCKETT, JR , M D , Bristol FRANCIS W GLUCK, JR , M.D , Nashville JOHN B. THOMISON, M.D , Nashville, Ex-Officio

APRIL, 1985

editorials

To Belong or Not To Belong

In commenting on the 11% of the GNP the United States currently spends for health care, Princeton Economist Uwe Reinhardt said there is nothing wrong with spending even 14% or 15% if we want to; it will simply mean there is less to spend on something else. In other words we *can*

afford it if we want to afford it. This principle of cost versus benefit, of course, carries over into every area of life—governmental and corporate, business and personal—and applies not only to our money but to our time as well. There is only so much of either to go around, and any given entity must choose how he, she, or it will use them.

Of all the reasons given, then, for not being a part of organized medicine, the only honest one is that it costs too much; every other reason must be evaluated in that light. Belonging does not, in fact, cost as much as not belonging, and the cost of belonging varies inversely with size of membership. I am speaking of participation at all levels of course, but since it is unlikely that you would be reading this if you were not a member of your local and state organizations, I am addressing here primarily membership in your national organization, the AMA, emphasizing again that participation of every physician at all levels is required for maximum benefit to both the profession and society, which put in individual terms means to you and your patients.

When in answer to a challenge to join his medical society, or more precisely here the AMA, a physician replies, "It costs too much," he usually means, or may even say "The dues are too high." Though that may frequently mean any dues are too high, for the moment we shall take his answer—or yours, if appropriate—at face value and first address just that. Dues are high, and I'll tell you later, when we discuss what they are buying for you, why they are high. Right now, I'll add, "but so is everything else." Your dues have increased at a rate much lower than inflation, and since your medical organizations have the same expenses as any other business does, that must imply better stewardship. Your dues are a business expense, and are therefore tax deductible. They are lower than those of most unions, and also of other professional organizations that offer a comparable range of services. Your dues are indeed high, but they buy a lot.

Unless you are convinced you need what you are buying, though, any dues at all are too high. So what are you buying? First, there are the tangibles; among those are subscriptions to two prestigious medical publications, the Journal of the American Medical Association (JAMA), a publication with worldwide circulation and vast readership, and a specialty journal of your choice. The weekly American Medical News keeps you abreast of socioeconomic influences on you and

your practice. Further, various AMA task forces and the Councils of the House of Delegates offer definitive scientific reports on topics of current interest or need. The AMA headquarters houses the finest medical library in the world, and maintains a research staff that can probe obscure recesses of the art for your practice or teaching. Computer technology brings education and communication to the monitor in your own living room or office, and numerous video clinics are available for rent or purchase. Because of its vast buying power, the AMA is able to offer insurance coverage for almost any need at greatly discounted rates. These are only a few of the many advantages the AMA offers its members.

In today's rapidly changing medical-political climate, though, important and valuable as the tangible benefits are, it is the intangibles that are vital to your practice. Because they are intangible, however, they are easily overlooked or ignored, and in fact one of the criticisms leveled at the AMA is that it is too political. To the contrary, if medicine were able to present a truly united front, many of our problems with both government and business could be mitigated, even abolished; Medicine's detractors—not to say persecutors-make great moment of the fact that fewer than half of the nation's doctors belong to their umbrella organization, and so Medicine's influence in the arena is weakened by just that much. It is weakened because Medicine has no other voice. The various specialty organizations maintain active lobbies, but because they are considered in Washington as simply splinters, their influence is negligible. Only the AMA has sufficient numbers to exert any significant influence, a fact ignored by too many in our profession.

The political philosophy of the Association is often criticized within the profession as being too conservative, or too pro-business. It is, however, neither conservative nor liberal. The AMA is not a monolithic organization, but one governed by representatives elected by the membership. It often appears conservative to political liberals and liberal to conservatives simply because on any given issue it will reflect the views of the majority of its members. It is simply not possible in such an organization, therefore, to represent the views of every physician every time. The debate on the floor of the House of Delegates is often heated, but the losers are statesmen enough to abide by the will of the majority, even though the minority may subsequently attempt to shift

the balance. What Medicine requires is that each physician be a statesman as well.

One of the most basic of military principles is divide and conquer. That principle can be applied in every area of human existence. It is certainly presently applicable to Medicine. Those who would regulate us, who would destroy us as a profession, can work their will upon us to the extent that they can keep us fighting amongst ourselves. Quarreling over turf rights, over fees, over political persuasion—or over whatever else divides us—only aids and abets the enemy, the enemy being anyone who would rob us of our professionalism and reduce medicine to a mere trade, to the detriment of our patients, in which group they myopically fail to recognize themselves.

In this day when cost/benefit ratios are continually being reassessed, physicians are asking not what has the AMA ever done for me, or even what has it done for me lately. They are asking, "What can the AMA do for me tomorrow?" The plain, simple answer is that without members, nothing. With more members, dues can be lowered, the AMA can fight more effectively to maintain our professionalism and the doctorpatient relationship, and direct member benefits will increase and proliferate, and not wither and die. You cannot possibly influence the course of medicine by standing aloof, and if enough of our colleagues stand aloof, no one will be able to do all those things for you, either, as the AMA does now, whether or not you are a member.

J.B.T.

A Medical Grand Present

The rapidity with which paper can accumulate these days is truly alarming, and I have a constant battle with the piles, more or less neat, but still piles, that occupy most of my desk and metastasize to adjacent credenzas and finally the surrounding floor. They all contain bits of information I think I'll get around to assimilating some day, perhaps to use in one of these pieces, or articles I have perused and want to read—but seldom do—or simply things that for less clearly defined reasons I want to keep. I try to confine my file space to essentials, but even that avenue eventually becomes clogged. My real battle, understand, is not with the paper, but with myself. I am by nature a pack rat, and I suffer pangs of

APRIL, 1985 247

bereavement over the smallest item I toss out. It is the same reasoning that impels me to carry too much luggage on trips—I'd rather have it and not need it than need it and not have it. I am persuaded that the next second after an item has become irretrievably lost I will need it desperately. That has happened just often enough to maintain the conviction.

Such a course of action—or better, inaction—must eventuate in periodic mass executions, since my assigned space is finite. One day last week, therefore, I attacked some files of journal correspondence for purge, figuring that having rounded out a baker's dozen years as editor (classically that's 13, for the uninformed, though I fear that these days a dozen of almost anything is more likely to be 11 than 13) I could dispense with some of my earlier papers. That was obviously not my first shot at those files—only my latest—but I almost couldn't get the job done for the flood of nostalgia it evoked—one of the dividends afforded us pack rats.

As the title implies, this is about a present—a Christmas present, no less. I realize you may think this a strange way to begin an acknowledgment, but I thought the introduction might give some of my more practically minded colleagues some insight into the benefits of clutter. You probably have your bits of information neatly filed in some recess of your brain, and simply reach in at the proper moment and come up with it at precisely ten years for a much deserved tribute. Mine is late. But better late than never. (I just coined that phrase—isn't it neat?)

Back in 1974 I received a letter dated December 4 explaining that the Department of Medicine at the University of Tennessee in Memphis (the school had not yet succumbed to the trend toward proliferative titles now common to all institutions of learning, whereby they become centers of something or other, with the maintenance man vice-president for engineering, and so onyou know the syndrome)—anyway, the Department of Medicine had a weekly grand rounds, some of which were "unusually sophisticated, and would be of great value to the physicians of the state and also to those outside the state who read the JTMA." Would I, the writer asked, be interested in publishing some of these presentations, to be prepared by the chief resident and edited by the writer? "I believe in this way we could provide a high quality type of manuscript to you each month that would require a minimum of editing on your part," he wrote.

My reply was that since I was presently receiving CPCs from several schools (including UT), and since both CPCs and grand rounds are usually long, I would be pleased to publish one every other month, alternating them with CPCs. The writer was as good as his word, and though CPCs have long since fallen by the board, ever since the first one was published in September, 1975 every second issue of the *Journal* (more or less), except for a few lapses occasioned by illness, has contained a Medical Grand Rounds submitted and edited by Charles E. Kossmann, M.D. He was right, too. They have required very little editing by me, but I have learned a lot of medicine in doing that little. On top of that, Dr. Kossmann, being the gentleman he is, has been a joy to work with. This editorial is not meant in any way to signal the end of the series, as I look forward to publishing many more of Dr. Kossmann's fine contributions. This is a thank-you note for a Christmas present that has worn well for ten years, and shows no signs of wearing out. I hope you have all enjoyed it as much and found it as profitable as I have.

In the familiar story of the prodigal son, the plight of the elder brother has always intrigued me, as he was seemingly penalized for always being loyal. Without carrying the analogy too far, since Dr. Kossmann certainly is no prodigal, I need to say that his unexpected offer in no way diminishes those of other regular contributors to these pages. Singling anyone out is risky, but the elder brother in this story is Barton Campbell, M.D., who, ever since I asked him to shortly after I became editor, has faithfully contributed each month an EKG with his interesting and informative interpretation and commentary to stimulate you. His series is 13 going on 14 years old, and my gratitude for it is intensified by its being in response to a request. If his enthusiasm has ever flagged, I have had no indication of it. Maybe this thank-you note is three years late. If so, my debt is simply magnified, and I apologize publicly to him.

During the 13 years of my editorship, I have received many proposals, and have also made a few of my own. Some have borne fruit; more have not. Sooner or later, for one reason or another, sometimes simply in response to changing needs, all have petered out—except these. Though I have to acknowledge that the life of neither they nor any other such entity is infinite, I trust the end is nowhere in sight.

J.B.T.

On Climbin' Jacob's Ladder

A scarce-recalled poem from my youth entitled "When Jesus Came to Birmingham" (or was it Manchester, or Liverpool?) opined that since man had become more civilized (or perhaps it was gentle), Jesus would not have been crucified there, but only left standing in the rain. I doubt that poem would be written today. Since that time we have witnessed the Nazi holocaust, the nuclear holocaust, Stalinist purges, My Lai, the Soviet invasion of Afghanistan—the list goes on and on. Synagogues and abortion clinics are being bombed, crosses burned, and old ladies mugged and raped. While I would agree it is doubtful Jesus would be crucified today, it may be only because crucifixion is considered bad form.

Contests involving infliction of more or less bodily harm have been popular entertainment for as long as we have records. Wrestling is likely the most benign, gladiatorial battle the most brutal. Even in the vaunted age of chivalry, jousting took its toll of life and limb. Bullfights pit man against animal, usually resulting in the death of the bull but occasionally of the matador. Cockfighting involves the human animal only tangentially.

Only in gladiatorial combat was human life forfeit—directly and deliberately—though in any of the others death was, and is, possible. As man came to consider himself more civilized—after the fashion of our above-mentioned poet—he abandoned gladiatorial conflict more or less, its only residue being fist-fighting, currently dignified by the term boxing.

Even warfare has at times been considered a gentleman's pursuit. It too was dignified by a euphemism-chivalry. Aviators in World War I considered themselves governed by rules of chivalry, and often acted out the joust. It is a sophistry of the human race that man is somehow a higher form of life than every other form. With his spirit one with God's, he is; otherwise he is only cleverer. Engaged in or slavering over a boxing match, man has no claim to superiority over any beast. He is no better than the cock; he is simply another animal. An interesting parallel between the two diversions is drawn in a special communication in this issue from Rudra Prakash, M.D., who also proposes a novel remedy to apply to us physicians.

If man is to call himself human, and define that status as superior, he needs to act that way. While banning boxing will not in itself ensure such a lofty position, it is a start, and one without which I cannot see how he can even begin the upward climb.

To be honest, I am pessimistic on all counts.

J.B.T.



Physician Manpower

To the Editor:

Dr. Thornton Bryan and his colleagues are to be commended for their fine analysis of physician manpower in Tennessee which appeared in the December issue (*J Tenn Med Assoc* 77:709-713, Dec 1984). Over here on the other side of the state we have recently completed a similar study using practically identical data sets, and our results are also (perhaps reassuringly) practically identical. We would like to affirm Dr. Bryan's conclusions that: (1) the state has experienced little or no alleviation of the maldistribution of physicians between the more urban and the more rural counties; and (2) the uniquely skewed age distribution of family physicians presages a continued shortage of primary medical care—especially in the more rural areas of the state.

We would like to voice one minor point of disagreement with Dr. Bryan's article, however. He and his colleagues speak of a "growing surplus of doctors in the state of Tennessee" even though such a trend is not substantiated by the data. To be sure, the questions involved in defining what constitutes a physician "shortage" or "surplus" are not easily answered. Even though the consensus seems to be that the United States as a whole is entering a period of surplus, one should not conclude that Tennessee's growing number of physicians indicates that the state is about to share in that "surplus" condition. The fact is that our state is still considerably behind the nation as a whole with respect to the ratio between population and physicians.

In 1983 there was approximately one physician per 518 people in the United States as a whole while the corresponding figure for Tennessee was approximately one physician per 714 people. Within the state there was, of course, considerable geographic variation, but only five counties in the entire state were at or above the average U.S. physician/population ratio. Within general/family practice, the U.S. ratio was 3,900 peo-

ple per physician while for the state of Tennessee there were 4,436 people per general/family physician. This in spite of the fact that Tennessee is a more rural state and, therefore, more dependent on family practice as a source of medical care. In 1980, 37.2% of the Tennessee population was living outside of metropolitan areas compared with 25.2% for the nation as a whole.

These figures suggest that one should exercise great caution in speaking of any "growing surplus" of physicians in Tennessee. They also reinforce the conclusions of Dr. Bryan's article even more strongly.

> Gary L. Burkett, Ph.D. Herschel Douglas, M.D. David G. Doane, M.D. East Tennessee State University Quillen-Dishner College of Medicine Department of Family Medicine Box 21130A Johnson City, TN 37614

Reply

To the Editor:

Thank you for forwarding the letter from Drs. Burkett, Douglas and Doane regarding the article on physician manpower which appeared in the December issue of the TMA Journal. I greatly appreciate the compliments offered by the writers of the letter.

I think it is significant that their manpower study supports the findings of the one we completed at the University of Tennessee. The minor disagreement relates, as they pointed out, to how we define physician shortage or surplus. Our interpretation of surplus was to point out that in the five-year period between 1978 and 1983 there was a real increase in physicians, as compared to population, of 17 per 100,000 in the state. In addition, the majority of those physicians opened their practices in the urban areas. I think that further analysis would show that most of those new physicians are in medical and surgical subspecialties, although the data were not examined for this. I agree with Drs. Burkett, Douglas and Doane that there is a serious rural shortage of family physicians and, as all the data indicate, the older average age of family physicians seems to portend a further shortage of those physicians needed for adequate rural health care.

We are not yet training enough physicians in the cost-effective, primary care specialty of family practice. We are already experiencing rumblings from those trying to organize sources of health care into costeffective modes that there is a severe shortage of physicians to render primary health care services in all areas, both rural and urban.

I hope that our efforts will generate more interest in this very real problem and that the information about this impending crisis in primary physician services will get widely disseminated.

> Thornton E. Bryan, M.D. University of Tennessee Center for the Health Sciences Department of Family Medicine 899 Madison, Suite 850-Main Memphis, TN 38103

Physician's Assistants

To the Editor:

I would like to take this opportunity to comment on the article entitled, "Vicarious Liability and the Physician's Assistant" authored by J. Kelley Avery, M.D. (J Tenn Med Assoc 78:31-32, Jan 1985). The intent of my comment is directed towards promoting better understanding of the physician assistant profession among physicians in Tennessee.

The name of the physician and physician assistant with Dr. Avery's article speaks of are unknown to me. However, there are references made in the article which immediately catch my attention. These include where the author uses the term "physician's assistant (PA)" once and "PA" six times under "Case Report" and the term "physician's trained assistant" in the first paragraph under "Loss Prevention Notes."

By way of background, the basic concept of a physician's assistant (PA) and the delegation of physician tasks are not new. Physicians have been delegating tasks of all kinds to office medical assistants and nurses for years. In December 1970, the American Medical Association adopted the following working definition of the general term, "Physician's Assistant":

"The physician's assistant is a skilled person qualified by academic and practical training to provide patient services under the supervision and direction of a licensed physician who is responsible for the performance of that assistant."

Prior to April 1983, Tennessee Code, Annotated 63-19-102 used the term "physician's trained assistant" in describing an individual who renders services, whether diagnostic or therapeutic, which are acts constituting the practice of medicine and, but for the provisions of Tennessee Code, Annotated, Section 63-608, could only be performed by a licensed physician. In addition, Tennessee law stated that no person shall hold himself out or function as a "physician's trained assistant" under Tennessee Code, Annotated, Section 63-608, and the provisions of this Act, unless he is a graduate of a physician's trained assistant training program accredited by the Committee on Allied Health Education and Accreditation (CAHEA) of the American Medical Association or he has passed the examination given by the National Commission on the Certification of Physician's Trained Assistants.

It was not until April 26, 1983 that Tennessee Code, Annotated 63-19-102 and 63-6-204 were amended by deleting the words "physician's trained assistant" and substituting in lieu thereof the words "physician assistant." This change in terminology was initiated in an effort to help standardize the utilization of PA's in Tennessee and to prevent an unqualified individual from holding himself out as a physician assistant.

I believe it needs to be pointed out that the term "physician's trained assistant" actually may not have been synonymous with the term "physician's assistant" as defined by Tennessee Code, Annotated 63-19-102 subsequent to April 26, 1983 and by the American Medical Association. Seeing both terms used in Dr. Avery's article prompts me to make this distinction.

I trust the author is correct in the manner in which the terms are applied in the article; that the individual whom the term "physician assistant" is applied was,

indeed, in accordance with Tennessee law, a graduate of a physician assistant training program accredited by the Committee on Allied Health Education and Accreditation (CAHEA) of the American Medical Association and has successfully completed the examination of the National Commission on the Certification of Physician Assistants.

I have wondered what impact Dr. Avery's article might have on physicians' attitudes in Tennessee toward PA's. Nonetheless, I express my thanks to Dr. Avery for submitting his article as the "Loss Prevention Case of the Month." His article highlights the fact that the supervising physician and PA both share the responsibility for maintaining ongoing supervision. It is important, and continuously stressed throughout a PA student's formal training that he or she must always be subject to appropriate and adequate supervision. Physician assistants are not seeking to become independent practitioners.

As the name "Physician Assistant" implies, the PA is indeed an assistant to and dependent upon his supervising physician(s) and all formal education and training is directed to that end. Apart from being trained to identify with physicians in terms of modes of thought, patterns of action and reaction, and dedication to moral and ethical value systems, the PA is prepared to assume a high degree of responsibility in patient care.

To date, studies support the middle-level health practitioners can be trained to extend physician capabilities in the delivery of medical care without sacrificing the quality of care. It is further supported that the inclusion of a PA in a practice setting is an excellent deterrent to the threat of malpractice (a costly procedure). Betty Jane Anderson, the assistant general counsel of the American Medical Association, has stated, "After looking at the ways in which PA's perform their services, I feel PA's probably hold the potential for being one of the best malpractice tools available at the present time."

Gary C. Johnson, PA-C Director, Physician Assistant Program Trevecca Nazarene College 333 Murfreesboro Road Nashville, TN 37203 tween physicians and the physician's assistant which would, of course, apply whether the term physician assistant was used generically or to represent a trained and licensed individual.

If any indirect criticism was implied, it would cer-

If any indirect criticism was implied, it would certainly be implied more toward the physician who did not properly supervise the conduct of his assistant.

J. Kelley Avery, M.D. Medical Director State Volunteer Mutual Insurance Company P.O. Box 1065 Brentwood, TN 37027



Robert A. Crocker, age 58. Died December 25, 1984. Graduate of University of Tennessee College of Medicine. Member of Memphis-Shelby County Medical Society.

Southgate William Green, age 47. Died January 19, 1985. Graduate of Bowman Gray School of Medicine. Member of Knoxville Academy of Medicine.

Robert Taylor Keeton, age 92. Died February 1, 1985. Graduate of Loyola University Stritch School of Medicine. Member of Consolidated Medical Assembly of West Tennessee.

Hale Sale Rhea, Sr., age 73. Died January 27, 1985. Graduate of University of Tennessee College of Medicine. Member of Memphis-Shelby County Medical Society.

David E. Scheinberg, age 76. Died November 19, 1984. Graduate of University of Tennessee College of Medicine. Member of Memphis-Shelby County Medical Society.

Reply

To the Editor:

I appreciate the opportunity of commenting on the letter to the editor from Gary C. Johnson, PA-C, regarding the "Loss Prevention Case of the Month" article which appeared in the January issue of *Journal of The Tennessee Medical Association*. Mr. Johnson's comments are well taken and there was certainly no intent on our part to be critical of the very vital role played by the physician's assistant in the practice of medicine in many situations.

However, the real point of the article was to point out the need for strict *protocols* in the relationship be-

new member

The JOURNAL takes this opportunity to welcome these new members to the Tennessee Medical Association.

CHATTANOOGA-HAMILTON COUNTY MEDICAL SOCIETY

Richard Arthur Hansen, M.D., Wildwood, Ga. C. Neil Herrick, M.D., Chattanooga David M. Jemison, M.D., Chattanooga

FRANKLIN COUNTY MEDICAL SOCIETY Darrell K. Wells, M.D., Palmer

HARDIN COUNTY MEDICAL SOCIETY

Richard S. Green, M.D., Savannah

LAWRENCE COUNTY MEDICAL SOCIETY Calvin A. Green, M.D., Lawrenceburg

MARSHALL COUNTY MEDICAL SOCIETY Cameron Shearer, M.D., Lewisburg

MEMPHIS-SHELBY COUNTY MEDICAL SOCIETY

Charles R. Beasley, M.D., Memphis David M. Bell, M.D., Memphis David W. Bell, M.D., Memphis Michael G. Carr, M.D., Memphis Lorenzo Childress, M.D., Memphis B. Kin Dempsey, M.D., Memphis M. Lawrence Drerup, M.D., Memphis Robert A. Duke, M.D., Memphis Morris L. Gavant, M.D., Memphis Scott B. Loveless, M.D., Memphis L. William McLain, M.D., Memphis Tien D. Nguyen, M.D., Memphis Victor I. Suvillaga, M.D., Memphis John C. Taylor, M.D., Memphis Ralph Taylor, M.D., Memphis Donald C. Watson, M.D., Memphis Allen R. Wyler, M.D., Memphis

(Students)

James H. Acuff, Memphis Nicholas B. Appleton, Memphis Michael Brewer, Memphis Margaret Burnett, Memphis Daniel G. Deana, Memphis Cindy L. Dedmon, Memphis Diana D. DuVall, Memphis Timothy John Flynn, Memphis James Coker Hall, Memphis Douglas E. Holland, Memphis Joan W. Iacobelli, Memphis Thomas R. James, Memphis William E. Jefferson, III, Memphis Bobby Kahn, Memphis A. Franklin Kennedy, Memphis Bryan R. Kurtz, Memphis William Y. Lu, Memphis Donald T. McKnight, Memphis James R. Mitchum, Memphis David C. Redd, Memphis Carol Ann Smith, Memphis Betty Van Hooser, Memphis Dennis J. Wieck, Memphis A. Brian Wilcox, Jr., Memphis

MONTGOMERY COUNTY MEDICAL SOCIETY T. G. Grabenstein, M.D., Clarksville

NASHVILLE ACADEMY OF MEDICINE Stephanie White Perry, M.D., Brentwood

RUTHERFORD COUNTY MEDICAL SOCIETY Elizabeth Read LaRoche, M.D., Murfreesboro

TMA Members Receive AMA Physician's Recognition Award

Thirty TMA members qualified for the AMA Physician's Recognition Award during January 1985.

To qualify for the PRA, a minimum of 150 hours of continuing medical education must be earned over a three-year period; 60 of these hours must be Category 1.

This list does not include members who reside in other states. Names of additional PRA recipients will be published as they are received from AMA.

Jose G. Amador, Jr., M.D., Morristown Harvey H. Barham, M.D., Bolivar James H. Bowman, M.D., Bristol Lonnie S. Burnett, M.D., Nashville Louis A. Cancellaro, M.D., Johnson City Warner L. Clark, M.D., Church Hill Glenna J. Corley, M.D., Memphis Billy L. Couch, M.D., Humboldt Thomas C. Duncan, M.D., Nashville Jerry Engelberg, M.D., Memphis James T. Farrar, M.D., Clarksville Joe F. Fleming, M.D., Kingsport Richard E. Galloway, M.D., Elizabethton Robert B. Gaston, M.D., Donelson Sue W. Johnson, M.D., Shelbyville Elgin P. Kintner, M.D., Maryville Allyn M. Lay, M.D., Columbia Michael S. Pippin, M.D., Nashville Harvey S. Sanders, M.D., Nashville John A. Shull, M.D., Chattanooga Nahed S. Sobhy, M.D., Memphis Viktor P. Sulkowski, M.D., Kingsport Jerry S. Sutton, M.D., Nashville David J. Switter, M.D., Nashville Owen C. Taylor, M.D., Cleveland Howard W. Thomas, M.D., Savannah Terrence L. Thompson, M.D., Memphis John C. Thornton, Jr., M.D., Brownsville Robert H. Tosh, M.D., Nashville Raymond H. Webster, M.D., Springfield

personal news

D. Nelson Gwaltney, M.D., Bristol, has been certified as a Diplomate of the American Board of Surgery.

Francis R. Reid, M.D., Oak Ridge, has been named a Fellow of the American College of Surgeons, and becomes part of a select group of eye surgeons who have been chosen as Fellows by the organization's Board of Regents.

journal of the tennessee medical association

OWNED AND PUBLISHED BY THE ASSOCIATION

MAY, 1985 VOL. 78, NO. 5

Extrapulmonary Tuberculosis In Tennessee From 1977-1981 A Review of Statistical Analysis

JAYANT B. MEHTA, M.D.; DANIEL KASPRZYK, M.D.; LEO M. HARVILL, Ph.D.; and H. R. ANDERSON, M.D.

Introduction

Along with syphilis, tuberculosis has been known as the "great imitator," mainly because of its extrapulmonary lesions and protean nature. Since tuberculosis can cause infection in every organ system in both an acute and chronic form, it was not until 1804 that Laennec¹ suggested that tuberculosis was a single disease entity with many different manifestations.

Although improved living conditions and effective chemotherapy have contributed to progressive decline in pulmonary tuberculosis in the United States, the public health statistics show that the total cases of extrapulmonary tuberculosis have remained around 4,000 per year.^{2,3} In Tennessee the number of pulmonary tuberculosis cases declined, from 1,295 in 1961 to 696 in 1980, but during the same time interval, the total number of extrapulmonary cases has decreased from

126 (8.8%) to 95 (12%) respectively, indicating a relative increase in percentage of extrapulmonary cases.

The longevity of the average American is increasing and we are dealing with more immunosuppressed patients, many of whom are recovering from chemotherapy or immunosuppressive therapy for malignant disease, or from transplant procedures. Tuberculosis is now more frequently seen in older individuals. Statistical analysis of this topic reveals important information for clinicians treating pulmonary and extrapulmonary tuberculosis.

Methods

The case records of 4,023 persons reported to have tuberculosis from 1977 to 1981 by the Tennessee State Department of Health and Environment were reviewed. The 454 cases with extrapulmonary involvement were then classified by anatomic location, sex, race, and age. Though race was classified as only white and nonwhite, all but eight persons in the nonwhite category were black. The classification by age included less than 15 years of age, 15 to 50 years of age, and 51 to 99 years, with ages ranging from less than one year to 99 years. These classification data

271

MAY, 1985

From the Quillen-Dishner College of Medicine, East Tennessee State University, Johnson City, and the Tennessee Department of Health and Environment, Nashville.

A portion of this study was presented as an abstract during the annual meeting of the Southern Medical Association, Atlanta, Oct. 30-Nov. 2, 1982.

Reprint requests to Department of Internal Medicine, Quillen-Dishner College of Medicine, ETSU, P.O. Box 21160A, Johnson City, TN 37614 (Dr. Mehta).

EXTRAPULMONARY TUBERCULOSIS/Mehta

were placed in contingency tables, and chi-square tests of independence were calculated. In addition, the total numbers of pulmonary and extrapulmonary tuberculosis cases for each year from 1961 to 1981 in Tennessee were obtained and analyzed.

Results

Since the data from each of the five years were similar in terms of classification by anatomic site, sex, race, and age, the data for all five years were pooled for further analysis.

Table 1 shows the frequency distribution of cases by anatomic site for male and female patients and for total cases. As shown in Table 1, genitourinary and pleural involvement were the most common for the total group, with approxi-

TABLE 1

NUMBER OF REPORTED EXTRAPULMONARY TUBERCULOSIS
CASES IN TENNESSEE, 1977-1981, BY SEX AND SITE

Site	Maies	Females	Total	%	
Pleural	72	30	102	22.5	
Lymphatic	37	49	86	18.9	
Bone/Joint	37	37	74	16.3	
Genitourinary	59	51	110	24.2	
Miliary	24	23	47	10.4	
Meningeal	9	9	18	4.0	
Peritoneal	4	8	12	2.6	
Other	3	2	5	1.1	
TOTAL	245	209	454	100.0	

 $\chi^2 = 18.37$, P < 0.05, 7df

mately equal sex distribution for the various sites except for the pleura.

Table 2 presents the frequency distribution of cases by age, race, and anatomic site. There were more pleural, peritoneal, and miliary foci in nonwhites and more bone/joint and genitourinary involvement in whites. Most types of extrapulmonary tuberculosis increased in frequency with age, except for the lymphatic system and meninges. The statistical test comparing age with race was statistically significant (P < .00001). This is illustrated by over half (53.8%) of the nonwhites being diagnosed with extrapulmonary lesions by the age of 50, as compared to only 28.3% of the whites being diagnosed by that age. The majority of the cases of miliary and meningeal tuberculosis in children (0-14 years of age) occurred in nonwhites

Table 3 shows the total number of pulmonary and extrapulmonary tuberculosis cases in Tennessee from 1961 to 1981 inclusive. This 21-year survey shows an overall decrease of 48.0% in pulmonary tuberculosis and of 17.5% in extrapulmonary tuberculosis, but from 1971 to 1980 there was a decrease of 13.3% in pulmonary tuberculosis and an increase of 26.7% in extrapulmonary tuberculosis.

The decline in the number of pulmonary tuberculosis cases in Tennessee has followed the national trend. In both, the pulmonary cases have declined more rapidly than extrapulmonary cases, which have leveled off in recent years, and in Tennessee this has produced a relative increase in the percentage of extrapulmonary cases.

TABLE 2

NUMBER OF REPORTED EXTRAPULMONARY TUBERCULOSIS CASES
IN TENNESSEE, 1977-1981, BY AGE, RACE, AND SITE

	Age							
	0-14		15-50		51-99		Total	
Site	White	Nonwhite	White	Nonwhite	White	Nonwhite	White	Nonwhite
Pleurai	0	0	17	30	37	18	54	48
Lymphatic	12	8	8	10	40	8	60	26
Bone/Joint	0	1	9	7	47	10	56	18
Genitourinary	0	0	23	16	56	15	79	31
Miliary	0	4	6	5	12	20	18	29
Meningeal	2	4	1	1	7	3	10	8
Peritoneal	0	0	3	5	2	2	5	7
Other	0	0	1	0	2	2	3	2
TOTAL	14	17	68	74	203	78	285	169

Race by Site: $\chi^2 = 29.90$, P < 0.01, 7 df Age by Race: $\chi^2 = 28.36$, P < 0.01, 2 df

Discussion

Continued prevalence of extrapulmonary tuberculosis remains a mystery. Snider⁴ offers three possible explanations: increased reporting of extrapulmonary cases, "overdiagnosis," and actual increase in frequency, or some combination of these factors. Lester² attributes it to better diagnostic procedures, but agrees that the issue is quite complex. It is not clear whether increased use of corticosteroids, immunosuppressive agents, and radiation therapy might contribute to the occurrence of extrapulmonary tuberculosis.

The relatively constant number of extrapulmonary tuberculosis cases in the United States indicates that the actual incidence of extrapulmonary tuberculosis is not increasing. Since the majority of new cases are simply reactivation of infection acquired in the remote past, it is conceivable that this "reservoir" in our population, coupled with the recent decline in pulmonary tuberculosis, is responsible for the steady case rate of extrapulmonary tuberculosis. There is an inverse relationship between the tuberculosis case rate and the proportion of cases reported as extrapulmonary.5 Generally, in the state with higher tuberculosis rates, the percent of cases that are extrapulmonary tends to be lower, whereas in states with lower rates, the percent of cases that are extrapulmonary tends to be higher.6

Despite modern techniques, diagnosis of extrapulmonary tuberculosis continues to be a dif-

ficult problem. Lester describes the diversity in localization of this disease and emphasizes that the diagnosis is often made by specialists not trained in tuberculosis.² Since the biopsy and appropriate cultures for mycobacteria are important for diagnosis, he believes all biopsy specimens should be routinely cultured for mycobacteria.

Unfortunately, it is not uncommon to find a tissue biopsy reported as showing caseating granulomata and acid-fast bacilli, but having no cultural confirmation of tuberculosis because a culture was not done. In one report, while 90.2% of all pulmonary tuberculosis cases had bacteriologic confirmation, only 75.9% of extrapulmonary cases did.⁷

The higher incidence of extrapulmonary tuberculosis in blacks, with its occurrence at an earlier age, also remains unexplained. It is not clear whether this difference is related to race or environmental factors.

Miliary Tuberculosis: Recent reports indicate striking changes in the age of those developing miliary tuberculosis. There has been a decrease in its occurrence in children, and an increase in older patients.^{8,9} In our study, 32 out of 47 cases (68.1%) of miliary tuberculosis occurred in patients above the age of 50, with only four in children. In some of these cases, decreased host defenses may have been a contributing factor.¹⁰ In addition to age, cancer, chemotherapy and/or ra-

TABLE 3

NUMBER OF PULMONARY AND EXTRAPULMONARY TUBERCULOSIS CASES IN TENNESSEE 1961-1981

	1961	1971	1976	1977	1978	1979	1980	1981
Total Cases	1,421	878	902	864	842	748	791	778
Pulmonary	1,295	803	814	774	773	652	696	674
Extrapulmonary	126	75	88	90	69	96	95	104
(% of total cases)	(8.9%)	(8.5%)	(9.8%)	(10.4%)	(8.2%)	(12.8%)	(12.0%)	(13.4%)
Pleural Lymphatic Bone and/or Joint Genitourinary Miliary Meningeal Peritoneal Other				17 7 14 31 8 7 2	11 18 10 16 7 3 3	21 22 19 19 12 2 1	22 19 17 19 12 4 2	31 20 14 25 8 2 4
Percentage Change Pulmonary Extrapulmonary All Cases	1961-1970 - 42.4% - 30.2% 41.5%	1971-1980 - 13.3% + 26.7% - 9.9%						

EXTRAPULMONARY TUBERCULOSIS/Mehta

diation therapy for cancer, immunosuppressive therapy, malnutrition and chronic renal failure are causes of decreased host defenses. Unlike others, 9,11 we did not find a significant sex difference, but like others, 10,12 we found that relatively more blacks than whites had miliary tuberculosis.

Tuberculous Meningitis: While tuberculous meningitis continues to be seen in children, 10 patients out of 18 (55.6%) were above the age of 50. Out of six children with meningeal tuberculosis, four were nonwhite, a finding consistent with others in the literature.¹⁰

Genitourinary Tuberculosis: Some reports indicate that genitourinary tuberculosis has declined as rapidly as pulmonary tuberculosis, and our five-year experience showed an even greater decline in genitourinary tuberculosis, the reason for which is unclear.

TB Lymphadenitis: In the United States, tuberculous lymphadenitis constitutes one-fifth of total extrapulmonary tuberculosis. In Tennessee, lymphatic tuberculosis has increased slightly, and the average patient is a little older than noted in the past.⁷

Bone/Joint TB: There were 74 patients with bone/joint tuberculosis, constituting 16.3% of the total extrapulmonary cases, with equal sex distribution. This is consistent with other reports in the literature.¹³

Treatment: Most of these patients received standard antituberculosis therapy and appropriate urologic, orthopedic, and general surgical procedures when indicated. Current drug regimens that are adequate for the treatment of pulmonary tuberculosis should also be effective in extrapulmonary disease when used in conjunction with surgery. The bacterial population is usually smaller in extrapulmonary disease.

Though isoniazid and rifampin for 9 to 12 months should be adequate for most of these cases, it may be desirable to add ethambutol, pyrazinamide and/or streptomycin for the initial two to eight weeks. 14 Patients with miliary and meningeal TB frequently require intramuscular agents in the early part of their treatment. While

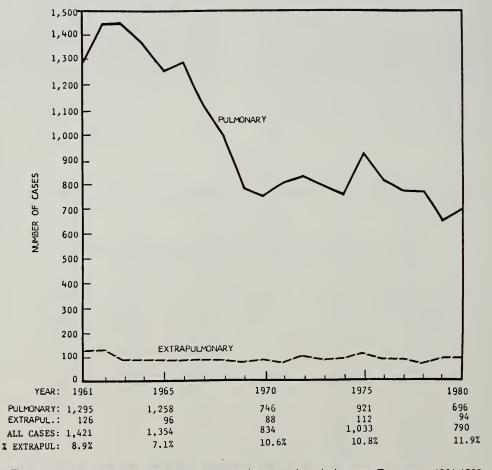


Figure 1. Number of reported pulmonary and extrapulmonary tuberculosis cases, Tennessee, 1961-1980.

the use of corticosteroids is controversial, most of the studies in the literature support the use of corticosteroids for a four- to six-week period in cases of TB meningitis. Though beneficial effects of corticosteroids in disseminated tuberculosis and pericardial tuberculosis is also controversial, the addition of corticosteroids during the first few weeks of therapy is generally recommended.¹⁴

Extrapulmonary tuberculosis, particulaly bone/joint, may require surgical treatment in addition to anti-TB chemotherapy.

Summary

In summary, extrapulmonary tuberculosis continues to remain a significant fraction of reported cases of tuberculosis in Tennessee (Fig. 1¹⁵). Though 1982 figures are not included in our analysis, they indicate that extrapulmonary tuberculosis (83 out of 747 cases reported) continue to represent more than one-tenth (11.1%) of total tuberculosis case load. ⁷ We therefore conclude that in Tennessee, extrapulmonary tuberculosis has not declined as rapidly as pulmonary tuberculosis, and that it is increasingly seen in older age groups and immunosuppressed patients.

Understanding the age, sex, and race distribution of extrapulmonary tuberculosis is important for clinicians in adjusting their degree of suspicion for this diagnosis. Factors affecting the lack of relative decline of extrapulmonary tuber-

culosis are not clear, but awareness of this, and maintaining a higher degree of suspicion, should lead to earlier diagnosis and treatment.

Acknowledgements:

We acknowledge the assistance of the Tuberculosis Control Program, and Center for Health Statistics, Tennessee Department of Health and Environment, Nashville, in collecting the data. We also thank Ms. Paula Williams and Ms. Janice Livingston for their secretarial services in the preparation of this manuscript.

REFERENCES

- 1. Laennec TRH: A treatise on the diseases of the chest and on mediate auscultation, ed 4 *Trans John Furbs*, London, Longmans, 1834.
- Lester TW: Extrapulmonary tuberculosis. Clin Chest Med 1:219-225, 1980.
 Reported Tuberculosis Data 1972. HEW Publication No (CDC) 74-8201.
 Tuberculosis branch, Bureau State Services, Center for Disease Control, Atlanta.
- Dec 1973.

 4. Snider DE: Extrapulmonary tuberculosis in Oklahoma, 1965 to 1973. Am
- Rev Resp Dis 111:641, 1975.5. Farer LS, Lowell AM, Meadow MP: Extrapulmonary tuberculosis in the
- United States. Am J Epidemiol 109:205-217, 1979.
 6. Farer LS: Tuberculosis in the United States. Morbidity Incidence. US
 Department of Health and Human Services, Public Health Service, Center for Disease Control, 1980, pp 3-9.
 7. Anderson HR: Annual Report of the Division of TB Control for the
- Anderson HR: Annual Report of the Division of TB Control for the Year 1982. Tennessee Department of Public Health, 1982, p 45.
- 8. Gelb AF, Leffler C, Brewin A, et al: Miliary tuberculosis. Am Rev Resp Dis 108:1327, 1973.
- 9. Linell F, Ostberg F: Tuberculosis in an autopsy material. Scand J Resp Dis 47:200, 1966.
- Alvarez S, McCabe WR: Extrapulmonary tuberculosis revisited: A review of experience at Bost City and other hospitals. Medicine 63:25-55, 1984.
- Munt P: Miliary tuberculosis in the chemotherapy era, with a clinical review of 69 American adults. *Medicine* 51:139, 1972.
 Jacques J, Sloan JM: The changing pattern of miliary tuberculo-
- sis. Thorax 25:1407, 1973.
- Gorse GJ, Paid MJ, Kausske JA, et al: Tuberculous spondylitis. A report of six cases and a review of the literature. Medicine 62:178-193, 1983.
- 14. American Tuberculosis Society. Treatment of Tuberculosis and Other Mycobacterial Diseases. Official Statement, Nov 1982.
- 15. Mehta J, Anderson HR: Extrapulmonary tuberculosis in Tennessee. Abstract Southern Medical Association. Annual Meeting, Atlanta, Nov 82.

Health Information Services Provided By Tennessee Consultants

KAREN T. HACKLEMAN

In the late 1880s, 30 Tennessee physicians were writing about fever, cholera, and observing occurrences of epidemics in geographical sections of Tennessee, such as the areas bordering the Forked Deer and Hatchie Rivers.1 Now, as in the 1880s, Tennessee has an impressive list of authors contributing to the medical literature. Seventy-one articles authored by 210 Tennessee health professionals appearing in 57 biomedical journals will be indexed in the March 1985 issue of Index Medicus.* One has only to browse the last six issues of the Journal of the Tennessee Medical Association to see that a shift in subject matter has taken place. Today, regular features appear on clinical, environmental, and geriatric medicine. It is also obvious that the Journal's authors try to keep up to date with the literature. During July through December 1984, 49 articles (original contributions and regular features) were published in the Journal, listing a total of 268 references (Table 1).

By the mid-19th century, there were at least three major medical literature collections in existence in this country. One, at the National Library of Medicine (NLM), evolved from a bookcase in the office of the first Surgeon General, Joseph Lovell (1818-1836). ^{2(p272)} By 1840, the collection numbered approximately 134 titles, eight of which were journals. ^{2(p5)} The titles were recorded in catalog format and accessibility was limited to scanning the catalog.

Today, NLM's collection includes more than 6 million references to books and journals in the

health sciences, and health professionals can electronically gain access to these records through the data bases collectively known as MEDLARS (MEDical Literature Analysis and Retrieval System).

The purpose of this article is to alert physicians to the services available through librarians serving as consultants. As consultants, they can analyze the scope of the information request and put the physician in touch with the most appropriate network. It also serves as a reminder to physicians in practice distant from academic medical centers that there is a way to obtain needed information to strengthen private practice, teaching modules, patient conferences, community outreach, automatic LATCH (Literature Attached to Chart), and other routine activities. Although the most convenient, logical approach to obtaining a full range of information services is through a local medical center or hospital library, an alternative is to utilize the skills and services of an experienced consultant.

Traditionally, librarians have assisted medical authors in searching and verifying information, but automation has enabled them to expand information services beyond the physical walls of the library and serve as a consultant. Anyone with a terminal, modem, and a password can gain access to the records in approximately 2,400 data files maintained by data base vendors, including those files produced by the NLM.³ Librarians, as consultants, communicate regularly with private and public service providers and know about their products, network affiliations, and pricing policies. They are also familiar with medical book companies, journal subscription agents, and audiovisual producers.

The Southeastern/Atlantic (SE/A) Regional Medical Library Services (RMLS), one of seven regional networks in the United States funded by the NLM, encompasses ten states and the Dis-

From the Southeastern/Atlantic Regional Medical Library Services, University of Maryland Health Sciences Library, Baltimore.

Reprint requests to Health Sciences Library, University of Maryland, 111 S. Greene St., Baltimore, MD 21201 (Ms. Hackleman).

^{*}This information was compiled using SDILINE, the holding file for new citations added to MEDLINE. SDILINE contains articles published during the past two to three months that will be indexed in the forthcoming issue of *Index Medicus*. SDILINE is especially useful to physicians wanting to see only the latest published information on select topics.

trict of Columbia. SE/A RMLS offers consultation as one way to provide timely, convenient information to health professionals. To accomplish this the region maintains a registry of consultants trained to provide services on behalf of SE/A RMLS. Each consultant accepted for the Consultants Registry complies with educational and experience requirements and completes a data form indicating areas of preference and expertise.

Acting as a central coordinating and referring agency, SE/A RMLS matches the parameters of the request with the knowledge, experience, and skills of the consultant. Although the RMLS is concerned with initiating the right match, subsequent requests for consultations—including the negotiation of fees and follow-up visits—become the responsibility of client and consultant. Training is also offered to acquaint the consultant with the most current methods of managing information, new library technology and operations, and health care trends.

A library consultant serves health professionals in a number of roles: as an appraiser/evaluator, an educator/trainer, and a communications link to information networks and community outreach programs. In 1980, the Joint Commission on Accreditation of Hospitals (JCAH) adopted standards for libraries located in hospitals. Administrators without full-time librarians were advised to hire consultants to assess resources, staffing, and services according to JCAH requirements. Personnel requirements, physical environment, budget, library committee, and cooperative agreements are all evaluated in relationship to the size, personnel, affiliations, and training and research programs of the institution. Similar processes are followed in appraising specialized information services. Although librarians have become expert online searchers, NLM's current policy of encouraging health professionals to approach MEDLINE directly, and the appearance of several "user-friendly" systems in the marketplace have hastened online training responsibilities. As a communicator, each consultant interacts with national, regional, statewide, and local groups (health sciences library consortia) sharing resources.

Electronic access has virtually changed the way information is processed and stored. Micro, mini, and main-frame computers have made biomedical information more accessible, and online search capabilities permit both a greater number of con-

cepts to be searched at one time and a greater degree of specificity to be reached. Thus, less time is needed to locate significant documents. Conversely, in rural areas, a shortage of qualified searchers and limited resources delay the transmission of the request and the procurement of the document. The majority of SE/A RML consultants, having completed MEDLARS training offered by NLM, also search other specialized data bases including those containing business, finance, and news items relevant to the daily personal needs of health practitioners. Consultants with experience combined with knowledge of information systems provide an integrated approach to problem solving.

Although the most notable medical information data base is MEDLINE, (Index Medicus online) MEDLARS includes around 20 other data bases with different subject scopes, e.g., TOXLINE (toxicology information online) and CANCER-LIT (one of five cancer data bases now available). Requests for articles selected from MED-LINE can now be automatically processed using microcomputer software and electronic messaging systems. In the privacy of home or office, references of choice can be scanned and ordered at the same time. SE/A RMLS consultants, familiar with health networks, can provide the most up-to-date information on where, when, and how to connect with online systems.

Examples of other information services that are readily available to physicians and other health professionals follow.

- MINET, a joint venture by GTE and the American Medical Association (AMA) provides information and communication services. MINET is currently cooperating with NLM (through MED/MAIL) to communicate six types of news items aimed at "speeding the transfer of new knowledge from the laboratory to the bedside."
- BRS/AFTER DARK and DIALOG's/KNOWLEDGE INDEX both comprise several data bases, including NLM's MEDLINE. KNOWLEDGE INDEX also includes educational files, and information on drugs, alcohol, and mental health. In addition to data bases like MEDLINE, BRS/COLLEAGUE features full-text facsimile of a limited number of books and journals such as the New England Journal of Medicine and Conn's Current Therapy.
- PAPER CHASE, marketed by Boston's Beth Israel Hospital, provides 24-hour access to selected articles indexed for MEDLINE since

MAY, 1985 277

TENNESSEE CONSULTANTS/Hackleman

January 1977, or a total of 1,800,000 references from 3,200 journals.

- MARCIVE, INC. will store and maintain a list of book titles and upon request provide printed cards or microfiche copy. The simple order process requires transferring one of three unique numbers taken from the back of the title page of each book.
- STOCKPAK II, a disk subscription to Standard and Poor's securities, examines 127 pieces of fundamental market data on each security available.
- ONTYME electronic mail service available through TYMNET allows users to request articles from other medical libraries (including Regional Libraries and NLM).

What systems will be most useful to you and how to find out more information about them is one important service that can be provided by SE/A RMLS trained consultants. System features, such as compatible hardware/software or currency of the data, should be considered before purchasing or subscribing to any system.

Another way SE/A RMLS consultants can be of assistance to health professionals in Tennessee is by offering services in support of continuing education. In the October 1984 GPEP Report (Report of the Panel on the General Professional Education of the Physician and College Preparation for Medicine), panel members offered five conclusions and several recommendations to pave the way for changes in medical education.4 The five conclusions centered on (1) general professional education, (2) baccalaureate education (encompassing a broad study in the social sciences and humanities), (3) learning skills, (4) clinical education, and (5) enhancing faculty involvement.

Recommendation supporting these five conclusions stressed the need for counterbalanced, integrated educational programs.

Incorporating information sciences as part of the curriculum was specifically addressed under Conclusion 3, but the concept could be effectively incorporated in each of the other four. For example, Conclusion 1 calls for "identification and critical appraisal of relevant literature and clinical evidence" as skills vital to effective learning. Already, the larger academic medical libraries are planning for integrated academic information management systems (IAIMS). The NLM funded seven such projects in the United States in the past two years based on findings of the Matheson Report.⁵ Those systems are now being tested, and in the future components of those systems will be adaptable for a variety of clinical settings. Practicing consultants can provide details and costs of these activities.

A list of Tennessee consultants is excerpted from the SE/A RMLS Consultants Registry (Appendix). Additional information regarding consultants is available upon request.

Acknowledgment:

The author wishes to acknowledge the assistant of Tennessee librarians Judith Hodges and Martha C. Childs in preparing this manuscript.

REFERENCES

- 1. Index-Catalog of the Library of the Surgeon-General's Office (First Series),
- 2. Miles W: A History of the National Library of Medicine. Bethesda, US Dept of Health and Human Services, 1982.
 - 3. Lisanti S: The online search. BYTE. 9(13):215-230, Oct, 1984.
- AAMC, Physicians for the Twenty-First Century. Report of the project panel on the general professional education of the physician and college preparation for medicine. *J Med Educ* 59(11 pt 2):1-208, Nov 1984.
 Matheson NW, Cooper JA: Academic information in the academic health
- sciences center. Roles for the library in information management. J Med Educ 57(10 pt 2):1-93, Oct 1982.

APPENDIX

TENNESSEE CONSULTANTS

Martha C. Childs Librarian, Preston Med. Library University of Tennessee Memorial Research Center & Hospital 1924 Alcoa Hwy. Knoxville, TN 37920 (615) 544-9525

Linda Farmer Medical Librarian Jackson-Madison General Hospital 708 West Forest Ave. Jackson, TN 38301 (901) 424-0424

Mary King Givens Head, Reference & ILL University of Tennessee Center for the Health Sciences Library 800 Madison Ave. Memphis, TN 38163 (901) 528-5634

Judith Hodges Director of Lib. & Vol. Services Tennessee Hospital Association 500 Interstate Blvd., South Nashville, TN 37210 (615) 256-8240

Margarette D. Koplan Chief Librarian Erlanger Medical Center 975 East Third St. Chattanooga, TN 37403 (615) 778-7498

James A. Curtis Head, Reference/Media Services College of Medicine East Tennessee State University P.O. Box 23, 290A Johnson City, TN 37614 (615) 928-6426, ext. 254

Joanne Guyton Manager of Educational Resources School of Nursing Methodist Hospital 251 S. Claybrook Memphis, TN 38104-3578 (901) 726-8862

Gail O. Findlay Acquisitions Librarian University of Tennessee Center for the Health Sciences Library 800 Madison Ave. Memphis, TN 38163 (901) 528-5635

Karen Graves Head, Educational Services University of Tennessee Center for the Health Sciences Library 800 Madison Ave. Memphis, TN 38163 (901) 528-6390

Jan Hawkins Librarian LeBonheur Children's Medical Center One Children's Plaza Memphis, TN 38103 (901) 522-3167

Joy Hunter Administrative Librarian VA Medical Center 3400 Lebanon Road Murfreesboro, TN 37130 (615) 893-1360

SCORS SCORE SCORE

W. Ellen McDonell Reference Librarian University of Tennessee Center for the Health Sciences Library 800 Madison Ave. Memphis, TN 38163 (901) 528-5634

Glenda L. Perry Serials Librarian University of Tennessee Center for the Health Sciences Library 800 Madison Ave. Memphis, TN 38163 (901) 528-5407

Susan A. Selig Librarian Stollerman Library University of Tennessee Center for the Health Sciences Library 956 Court, Box 14A Memphis, TN 38163 (901) 528-6053

Elizabeth L. Williams Assistant Librarian Medical Library East Tennessee State University Box 23,290A Johnson City, TN 37601 (615) 928-6426

Ronald R. Sommer Head, Readers' Services University of Tennessee Center for the Health Sciences Library 800 Madison Ave. Memphis, TN 38163 (901) 528-5634 Barbara A. Meadows Administrative Librarian VA Medical Center 1310 24th Ave., South Nashville, TN 37211 (615) 327-4751 ext. 5526

Sam Cameron Archivist Meharry Medical College Library 1005 D.B. Todd Blvd. Nashville, TN 37208 (615) 327-6319

Susan Way Librarian Outreach and User Education Vanderbilt University Medical Center Library A-1300 Medical Center North Nashville, TN 37232 (615) 322-6263

Cheryl Hamburg Head of Reference Meharry Medical College Library 1005 D.B. Todd Blvd. Nashville, TN 37208 (615) 327-6318

Leslie Goodale Director Meharry Medical College Library 1005 D.B. Todd Blvd. Nashville, TN 37208 (615) 327-6318

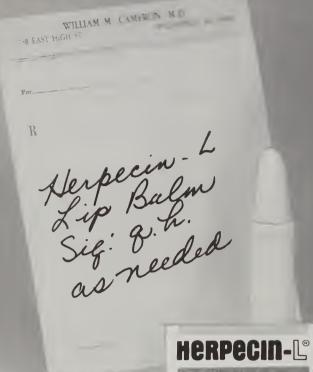
Help for Impaired Physicians

Through its Committee on Impaired Physicians, TMA helps doctors who are suffering from alcoholism and drug addiction. The thrust of the program is rehabilitative, not punitive. The Committee is composed of physicians who have special expertise in these areas, some from personal experience. Effective treatment for these illnesses is achieved most easily when the disease is detected early and family, friends, and associates are urged to avoid misguided sympathy which enables the condition to deteriorate.

HELP US TO HELP

Call the TMA Impaired Physician Program (615) 327-2711; outside Nashville call collect. Phone service available around the clock.

Dx: recurrent herpes labialis



"HERPECIN-L is my treatment of choice for perioral herpes."

GP, NY

"HERPECIN-L appears to actually **prevent** the blisters . . . used **soon enough.**" DDS, MN

"HERPECIN-L"... a conservative approach with low risk/high benefits." MD, FL

"Used at prodromal symptoms . . . blisters never formed . . . remarkable." DH, MA

"(In clinical trials) ... response was dramatic. HERPECIN-L .. proven far superior." DDS, PA

"All patients claimed shorter duration . . . at prodromal symptoms . . . HERPECIN-L averted the attacks." MD, AK

OTC. See P.D.R. for information. For samples to make your own clinical evaluation, write: Campbell Laboratories, Inc., P.O. BOX 812-MD, FDR STATION, NEW YORK, N.Y. 10150

In Tennessee HERPECIN-L is available at all *Eckerd, Revco,* Super D, SupeRx Drug Stores and other select pharmacies.



Use of Wick Catheter Compartment Measurements in the Vascular Trauma Patient

WILLIAM L. RUSSELL, M.D. and PAUL M. APYAN, M.D.

Case Reports

Case 1. A 68-year-old white man sustained an injury while cutting timber. A tree limb fell against him, knocking him to the ground, but he did not seek immediate medical attention. The next morning he experienced significant pain in his left lower extremity, and when seen in an outlying community hospital he had a cold extremity without evidence of peripheral pulses. On referral to our institution, he was unable to plantarflex or dorsaflex his foot, and had significant loss of sensation on its dorsal and lower aspects. There was no obvious peripheral nerve injury. Arteriography revealed occlusion of the left superficial femoral artery. At surgery, wick catheters were placed in the anterior and superficial posterior compartments of the left calf, with initial pressures of 10 and 12 mm Hg, respectively. The extremity was revascularized by standard techniques and within two minutes the catheter pressures had risen to 28 and 33 mm Hg, respectively. Immediate open fasciotomy produced prompt fall of intracompartmental pressure to 6 and 0 mm Hg within 20 minutes, and six weeks later the patient had begun to obtain return of function in the extensor hallicus longus, extensor digitorem, and tibialis anterior, as well as full return of sensation,

Case 2. In a motor vehicle accident a 72-year-old man sustained blunt trauma to the left lower extremity, as well as a closed head injury with questionable loss of consciousness. On admission he had no objective signs of vascular compromise in his lower extremity, but approximately 12 hours after admission experienced significant pain in the left lower extremity, which on examination was found to be cold and pulseless. A wick catheter in the anterior compartment of the lower leg showed initial pressure of 3 mm Hg, but shortly after a thromboembolectomy of the superficial and common femoral artery accomplished reperfusion there was a slow and gradual rise in the compartment pressure, and at 25 minutes post-thromboembolectomy the pressure had increased to 25 mm Hg. Because of this persistent rise of pressure a subcutaneous fasciotomy was performed with a resulting pressure drop to 17 mm Hg. Twelve hours postoperatively the pressure increased to 25 mm Hg, and the patient subsequently underwent a complete four compartment open fasciotomy with a final pressure of 11 mm Hg. Slow return of motor function over several months allowed the patient to progress from use of a foot drop brace to independent ambulation.

Discussion

What we know today as compartment syndrome was known by various terms for many years, local ischemia, anterior tibial syndrome, and vas-

cular compartment syndrome being but three of them.^{1,3} The current definition of Matsen⁴ as "a condition in which increased pressure within a limited space comprises the circulation and function of the tissue within that space" seems most applicable today. Clinical findings in the intact limb are rather classic and include pain out of proportion to severity of injury, tenseness of the involved compartment, loss of sensation in the distribution of the involved nerves, and pain on passive stretching of the muscles if the involved compartment. There are situations, however, in which symptoms are not so easily elicited; these include the trauma patient in particular.

Measurements of compartment pressures have likewise graduated through several generations. The most commonly applied measurement in clinical practice today is by use of a water-filled "wick" catheter inserted directly into the compartment in question, as shown in Fig. 1. Through the use of pressure transducers and monitors a

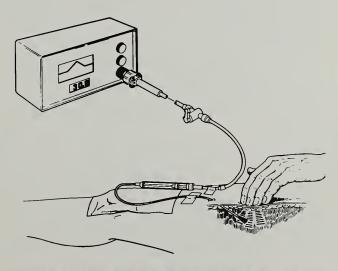


Figure 1. Measuring intracompartmental pressures using the wick catheter and pressure transducer.

MAY, 1985

From the Department of Surgery, University of Tennessee College of Medicine-Chattanooga Unit, Erlanger Medical Center, Chattanooga.

direct intracompartmental pressure is obtained. Our technique for placement of such a catheter and a broad series of patients utilizing it has been reported.^{5,6} A subset of patients with compartment syndrome, the patient with vascular injury, will be described here.

The mechanism of injury in vascular trauma can be quite varied. Distal perfusion may not be totally compromised at the onset of injury except in patients in whom transection of the vessel or complete extrinsic pressure renders cessation of flow. With time, vascular compromise may occur from extrinsic pressure from an expanding hematoma or extension of intimal injury.

There is no substitute for a full and adequate examination, but as in the two patients presented, the physical findings may be delayed, especially in certain blunt trauma patients. This may well lead to a more insidious onset of vascular compromise. Occlusion for longer than eight hours is well known to place the patient at greater risk for development of compartment syndrome once revascularization occurs. It is, therefore, important that one know precisely the intracompartmental pressures both pre- and post-revascularization once the vascular injury is recognized and appropriate operative intervention is formulated.

The relationship between pressure measurements and relative risk of compartment syndrome is well established. Compartmental pressures less than 30 mm Hg, which return rather promptly to 10 mm Hg or less without fasciotomy are considered to produce a very low risk for development of compartment syndrome. Patients with pressures of 30 mm Hg that do not respond to conservative measures, or patients with pressures greater than 30 mm Hg, are at high risk for development of compartment syndrome, and therefore should be considered for fasciotomy. With vascular injury, our experience has shown that pre- and post-revascularization pressures, as demonstrated in our two patients, may quickly rise to levels of 30 mm Hg or more within a relatively short time, which requires the surgeon to make a decision while the patient is under anesthesia as to the need for fasciotomy.

Many surgeons believe that in the extremity with prolonged ischemia, fasciotomy is always indicated accompanying revascularization, but it has been our experience that such is not always the case.⁶ Avoidance of a fasciotomy may be an equally, if not more, important aspect of the utilization of the wick catheter.

As noted in case 2, an attempt at subcutaneous fasciotomy did not achieve an adequate result and the patient subsequently required an open four compartment fasciotomy. Open fasciotomy often results in considerable morbidity, as exposed tissues often require split thickness skin graft and prolonged hospitalization.

The utilization of compartmental monitoring in vascular trauma, orthopedic and other blunt trauma patients, burn patients at risk for increased intracompartmental pressure, and certain medical situations has been efficacious. It should be stressed once again, however, that electronic monitoring in no way obviates the need for frequent and close clinical evaluation on admission as well as frequent follow-up examinations. Vascular injuries as well as more subtle intra-abdominal, intracranial, and neurological injury may well be not so apparent on admission, but may indeed be significant, and life- or limbthreatening if unrecognized.

REFERENCES

- 1. McQuillian W, Nolan B: Ischemia complicating injury. A report of thirty-seven cases. J Bone Joint Surg 50:482-492, 1968.
- Carter AB, Richards RL, Zachary RB: The anterior tibial syndrome. Lancet II:928-934, 1949.
- 3. Fowler PJ, Willis RB: Vascular compartment syndrome. Can J Surg 18:157-161, 1975.
- 4. Matsen FA: Compartmental syndrome, a unified concept. Clin Orthop 113:8, 1975.
- Russell WL, Apyan PM, Burns RP: An electronic technique for compartmental pressure measurement utilizing the wick catheter. Surg Gynecol Obstet, accepted for publication Jan 4, 1984.
- accepted for publication Jan 4, 1984.
 6. Russell WL, Apyan PM, Burns RP: Compartment pressure measurement utilization and wide clinical implementation using the wick catheter. Surg Gynecol Obstet, accepted for publication Jan 4, 1984.

Health Care for Older Citizens: Overcoming Barriers

JAMES A. GREENE, M.D.

Research and clinical experience have already provided us with considerable knowledge about the nature of some of the barriers that affect the impaired elderly, especially all older persons generally in this country. Regardless of this distinction, we need to examine how we can organize and deploy our resources effectively to diminish these barriers. If we do not, these barriers diminish us all.

In Table 1 is a listing of some barriers to older Americans. This by no means constitutes a complete listing.

Understanding Barriers to Older Americans

Attitudinal Barriers

Attitude of Society Toward the Aged. In regard to the attitude of society towards the aged, I think we have ourselves to blame in part for this. One of the reasons society is so thoroughly disinterested in the aged is that a consideration of aging and the aging experience reminds us all of a potentially unpleasant reality. At the same time it is quite clear that the "unpleasantness" of the reality of aging has been highly exaggerated. This has been done in part by gerontologists, who studied primarily the disabled elderly and who drew from their studies a picture of all the elderly as impaired, sick, disabled, lonely, and deserving of pity rather than of understanding and help. That the impaired elderly constitute only a relatively small fraction of the aged, however, is now quite apparent, but the image of the aged as being impaired, incapable of learning, and incapable of participating in community life persists nevertheless.

Attitude of the Media Toward the Aged. Along these same lines the media have perpetuated the errors of the gerontologists. They have not presented a balanced picture of the aged, but have focused primarily on their plight rather than presenting an accurate picture of the range of aging experiences, including models of "successful aging." In trying to evoke sympathy they have reaped pity instead, pity that isolates. A recent example is the media blitz about the plight of the aged in nursing homes. We are trying to undo some of this. A focus needs to be made on successful adaptation to adversity by older Americans. This is the entire range of the successful aging experience from the strikingly prominent older person to the one making a successful adaptation to adversity that includes physical disa-

TABLE 1 BARRIERS TO OLDER AMERICANS

Attitudinal Barriers

Attitude of society toward the aged Attitude of the media toward the aged Attitude of service providers toward the aged Attitude of the aged toward the aged

Barriers to Utilization of Services

Lack of services

Lack of a system of services

Lack of knowledge of services

Lack of awareness of need for services

Lack of transportation

Lack of money to buy services

Lack of understanding of the aging experience

Administrative Barriers to Utilization of Services
Lack of adequate administrative structure
Lack of the concept of a system of care
Lack of systematic planning for services
Uncertain funding (pathways and amounts)
for aging programs in the future

MAY, 1985 289

From the TMA Long Term Health Care Committee. Dr. Greene is director of the Gerontology Center, East Tennessee Baptist Hospital, Knoxville.

bility and loneliness, and even to institutional care where this is needed.

Attitude of Service Providers Toward the Aged. All of us are aware of the attitudinal barriers inherent in service providers for the elderly. It is very clear that many health professionals and social service providers have negative attitudes toward the aged and believe that they are not worthy of receiving services and of using valuable federal, local, and state dollars. While we may label this as reprehensible, one of the other reasons for this lack of interest in caring for the elderly stems not from negative attitudes but from a lack of skill in helping the elderly. Far too many physicians, nurses, social workers, welfare workers, etc., are untrained in taking care of elderly persons, having never had any exposure to a core curriculum in the field of gerontology. They require short-term and long-term programs of training in order to understand what can be done for the aged, how it is to be done, and that the aged can be helped. In fact, in our experience the aged respond to social, psychiatric, and medical intervention as readily as any other age group with the possible exception of temporarily disturbed college students.

Attitude of the Aged Toward the Aged. A final point is the attitude of the aged toward themselves. Like the rest of the society, they have been exposed to all of the negative stereotypes about the aged, and thus have been made to believe that they have been the perpetrators of their own calamities. It is a somewhat moot point, but it may be interesting to ask which is more difficult to bear—becoming a member of a minority after having been in the mainstream all of one's life, or to have lived all of one's life as a member of a minority group. Obviously there are problems special to those elderly who have been members of one minority group all of their lives, for instance black, or female, or both, and who at the arrival of their 60th birthday now become charter members of yet another minority group—the aged.

Barriers to Utilization of Services

Before going on to discuss barriers of utilization of services, I shall first provide you with a relatively comprehensive list of services that workers in the field of aging have come to think of as being needed and desirable for older persons in our communities (Table 2). Though this list is not necessarily complete, it probably covers 90% of all the services that older persons need

and receive. It should be clear from an examination of this list that every community, however small, however anomalous, however ghettoized or urbanized or rural or isolated, already has some of the services outlined here. All older Americans are potentially served by such programs as the Social Security Program, providing financial assistance as well as the Social Services Departments in the various states. Similarly, social interaction services are potentially available in every community, as are checking services, and medical services are available in nearby communities if they are not immediately available.

Lack of Services. A lack of specific needed services in a community is an obvious but very real barrier to the utilization of that service. If somebody needs transportation and there is none, then that lack constitutes a barrier not only to that service but a barrier to the utilization of other services as well.

Lack of a System of Services. Most communities lack a system of services. To be sure, in most communities some services exist, but they tend to be scattered throughout the community. Rare indeed is the community that has an organized system of services for its elderly. What is meant by a system of care includes, at a minimum, a systematic procedure for multidimensional assessment of the multiple needs of the elderly, leading then to an assignment of services appropriate to the level of need or impairment of the elderly person. A further requirement for a "system of services" is that entry into any part of the system connects the individual with the entire

TABLE 2
LIST OF DESIRABLE AND NEEDED SERVICES

Alcohol and drug problems Ambulance and emergency service Boarding homes Counseling services Day care Dental care Education Emergency assistance Employment Eye services Financial assistance Food and nutrition Handicapped services Health services Health financing Home health care

Home repair Hospitals Housing Information and referral Legal services Neighborhood and recreation centers Nursing homes Protective services Recreation Retirement homes Taxes Telephone reassurance Transportation Veterans assistance Volunteer opportunities

system, and that every segment of that system is fully informed and understands the function of the other parts of that system. Research evidence indicates that elderly persons can often get themselves to one place for services but not to a second or third place for a service that is also needed, and since many of the needs of the elderly interact, attention to only one of their needs is often ineffective in overcoming their difficulties.

Lack of Knowledge of Services. Many elderly persons are uninformed about services that are available and for which they are eligible. I shall comment on this further when I suggest remedies for some of the difficulties that have been mentioned.

Lack of Awareness of Need for Services. This is another common lack among the elderly. Some elderly experience adverse conditions without realizing they are experiencing them or that something could or should be done about them. There is a complex interaction between an adverse condition, such as inadequate housing, and the perception that more adequate housing is needed. Still too many elderly, and sometimes their families, accept many of the adversities and illnesses of old age as a natural consequence rather than as a call for intervention. Many of the elderly are too proud to seek help, and many are not aware that many of the conditions that burden them can be remedied. The use of the psychological defense mechanism of denial is common in old age, and accounts for the sometimes startling reports that we hear about in newspapers, and from some survey studies, such as that the elderly are "poor but happy." The mechanism of denial works to allow people to accept conditions that they believe they can do nothing about. This often leads to a minimization of recognition of difficulty in the area of physical health, mental health, social resources, economic deprivation, etc. Studies have shown consistently that the objectively verified condition of the elderly is generally substantially worse than their subjectively perceived assessment of that same condition.

Lack of Transportation. This has already been commented on.

Lack of Money to Buy Services. Sometimes there is an actual lack of funds to purchase services, but at other times there are attitudinal lacks on the part of older persons that lead them not to expend available money for needed services because of false economies, or the expectation that their bequest to their children will be threat-

ened if they use these funds for themselves. Inadequate coverage for such services as psychiatric outpatient care under Medicare, for instance, or under Medicaid in some states, is an additional barrier to the utilization of services.

Lack of Understanding of the Aging Experience. A final point is the lack of understanding among both the aged and society generally that aging is normal. Much needs to be done to educate decision makers, people in the helping professions, the aged themselves, and their families about the range and scope of the normal aging experience, its pitfalls, its possible rewards, and models of successful aging. If it is understood that an adaptation has to be made to the aging experience, then the chances of making that adaptation successful are far greater than if a person stumbles into old age without a roadmap, without bearings, without knowing what to expect or how to ask for directions if he gets lost on the way.

Administrative Barriers to Utilization of Services

We will now discuss what can and needs to be done to clear away administrative barriers to a fuller participation by the elderly in the life of our communities. In fact, some of the things that we will suggest amount to more than a clearing away of existing barriers. They amount to building broad new avenues of access for our elderly back into our communities and by our communities back to our elderly, who constitute such an enormously rich resource. At a time when we hear much rhetoric about conservation of natural resources, we owe it to both ourselves and our elders to preserve these valuable resources.

Ideas for Action on Behalf of the Aged

Separate Visibility

All of the evidence available today indicates that both the aged themselves and programs for them fare poorly in competition with other equally worthwhile endeavors and programs unless they are given separate visibility, which means a separate focus within government or a separate focus within a service organization that is geared specifically to the needs and limitations of the elderly. The aged simply do not get their equal or fair share of any program unless those programs are highlighted for them. This is true whether we are talking about food services to those at or below the poverty level or about oth-

MAY, 1985 291

er health programs or about the prospects for revenue sharing.

Leadership

In any program providing services to the aged there must be visible and competent leadership, leadership dedicated to specifically developing the need areas of aging, leadership moreover that can evoke a similarly dedicated response from all the agencies and persons with whom that leadership must work. All the work in the field of aging indicates that the approach to aging has to be a multidisciplinary one—people working together—including such persons as psychiatrists and other physicians, lawyers, administrators, social workers, nurses, psychologists, program planners, and public information officers.

Organizational Coordination

The leadership in such an organizational structure must coordinate the efforts of the various governmental and private organizations and agencies. Despite our common goals, the task of minimizing unconstructive competition among agencies and organizations is a delicate and difficult one. What is involved obviously is the capacity to integrate the work of individual organizations and agencies into an overall plan without appearing to be seeking to take over their function or to control them from the outside. That requires continuing efforts over a matter of weeks, months, and sometimes years.

Coordination on Behalf of the Individual Aged Person

Research and clinical experience have shown that though elderly persons often have multiple needs, if they can bring themselves to seek any services at all, they often can bring themselves to go to only one helping agency or station. This agency or helping person often does not recognize these other needs, and the aged, impaired person is also unable to make his other equally serious needs felt. Therefore, while one need may be addressed, others will go unmet and may eventually wipe out the gains made by trying to solve this one problem. It has become clear that there should be one person involved in coordinating services on behalf of one individual client, a person who can act as a go-between, a broker, as it were, to see to it that the major dimensions of that person's functioning are properly assessed and that all of his needs are addressed. This does not mean that this service coordinator or case

manager should seek to provide all these services himself, but only that he would coordinate the provision of services for the older person even though the services might be widely distributed over the community. Because an unmet need in one area in old age tends to create needs in other areas, these needs have to be addressed in a coordinated manner.

Organizational Outreach

Because organizations sometimes do not know that they have a role to play in and on behalf of the aged, the leadership in the visible agency on aging, be that the task force of aging, the council on aging at the state level, or a local community council on aging, must often reach out to other organizations to invite them to contribute to the overall effort to improve the quality of life of the elderly. Again, this may require considerable effort and time, but not infrequently major segments of the community are left out of the overall effort to improve the quality of life of the elderly. Thus, for instance, in some communities the churches are neglected, in others the private sector of the health services community is neglected. In other areas, state agencies or federal agencies or bureaus are neglected, or the volunteer sector may be neglected. Organization outreach is the answer to this.

Outreach on Behalf of the Individual Aging Person

It is very clear by now from research evidence and clinical observation that only a small fraction of the impaired elderly avail themselves of existing services. This has been true of the food stamp or commodities program, it has been true of mental health services, and of many others. Agency personnel have been quite reluctant to advertise their services or to reach out into the community to provide these services, fearing that the utilization of services would reach such tremendous proportions that cost would become astronomical. This situation, however, does not obtain for services to the aging, since the aging are remarkably reluctant to enter the service system. It is for this reason that an active outreach program to actually find persons in need of services must be mounted at the community and local level.

Planning

Though we would consider it unthinkable to start building a house without a plan, in the area

of services to the aged we have unfortunately, at least until recently, proceeded without one, and even now we have not come very far. On the whole, the concept of long range planning is quite foreign to most individual members of the service professions. They do not understand planning, and they see it as simply one more roadblock to their efforts. On the other side are individuals with some experience in planning, but their experience is in other areas than aging, and they are often unaware of the specific interacting needs and limitations of older persons. What clearly emerges is a need for service professionals in the field of aging to understand what planning is all about, and for professional planners applying their skills to the field of aging to learn what aging is all about.

Planning is a matter of allocating scarce resources in such a way as to provide a desired change in the state or condition of a given population. What is required for a systematic approach to planning in the field of aging is the capacity to assess the current needs of the aged population, to assess what services are effective in meeting those needs and at what cost, so that rational decisions can then be made on how resources can be allocated to effectively produce socially desired results. Until now there has been a considerable tendency of governmental agencies and service providers to fly more or less by the seat of their pants, without charting a flight course. There has been very little research on the impact of various kinds of intervention. For various reasons service professionals, politicians, and planners have advocated one or another kind of service for the elderly. But hereto we have not asked ourselves these hard questions: what will be the effect of these interventions, what will they cost us, and are there other means to achieve the same results more cheaply, thereby saving us money with which we could test out alternative methods of providing services?

To do very basic research on the impact of intervention, several important tools are required. We must first have a method for reliably and validly assessing the current level of functioning of the elderly population. Duke University has developed some instruments that can assess the individual's level of functioning in the areas of mental health, physical health, social resources, economic resources, and his capacity for the activities of daily living. Recently Dr. Eric Pfeiffer at the University of South Florida has refined and shortened these instruments to one basic instrument called the functional assessment inventory (FAI) which we use extensively in our center.

A second requirement in this research is to be able to accurately describe, quantify, and assess the cost of the services to be provided the elderly population. Again, the list of services constitutes an important step in the direction of being able to carry out this kind of an analysis.

The third requirement is the ability to reassess either an individual or a population in terms of the dimensions originally assessed. The same instrument package can be used for reassessing an individual as was used in the initial assessment of that individual.

The TMA Committee on Long Term Care, which I chair, currently has a subcommittee studying assessment with the goal of finding or developing an instrument that might be used statewide and in various settings.

Creating Systems of Care

Planning as just described forms part of a larger system of care, a system responsive to the needs of the population it is trying to serve, a system responsive to changing resources, and a system responsive to feedback from evaluation research as to whether a specific program is or is not effective. Again, health professionals have had relatively little training in the field of systems operations, and they must begin to seriously engage with people from operations research, people from the business world, people from the office of management and budget, in order to interact effectively in a complex system for meeting in a continuous and changing way the needs of the elderly population.

EKG of the Month

W. BARTON CAMPBELL, M.D.

A 66-year-old man was admitted to St. Thomas Hospital with "inability to urinate." He had a history of chronic obstructive pulmonary disease with recent onset of severe congestive heart failure. He had progressive mental confusion, marked dyspnea with exertion, orthopnea, and paroxysmal nocturnal dyspnea; his chest film was compatible with pulmonary edema. On admission the pulse was 106/min and regular, and blood pressure was 114/80 mm Hg. Because his prostate was enlarged, a Foley catheter was inserted and he was given furosemide 80 mg IV with 5 liter diuresis over the next 24 hours, following which he became more alert and his edema improved.

Two days following admission, when he pulled the Foley catheter into his urethra, he developed lower abdominal discomfort; his Foley catheter was therefore changed, but six hours later his blood pressure rose from 104/70 to 160/114 mm Hg. Despite administration of sodium nitroprusside, his blood pressure continued in the range of 150/110 mm Hg. His pulse rate rose to 150/min and respirations increased to 30/min, and he appeared confused, agitated, and acutely uncomfortable. Arterial pH was 7.52 with PCO₂ 31 and PO₂ 62 torr, and his pulse became markedly irregular. An electrocardiogram and rhythm strip were obtained (Figs. 1 and 2).

In Fig. 1 the PP interval is quite regular at a rate of 150/

From the Department of Cardiology, St. Thomas Hospital, Box 380, Nashville, TN 37202.

min. The P waves (best seen in lead II) are tall and peaked with 3 mm amplitude. The striking finding on the tracing is the occurrence of multiple ventricular ectopic beats. In leads aVR, aVL, aVF is a four beat run of ventricular tachycardia which do not alter the PP interval. There are poor anterior forces (with poor R waves in V₁, V₂, V₃ and V₄), and the conducted beats have slight repolarization changes with sagging ST segments laterally. The rhythm strip (Fig. 2) is a 10 second simultaneous lead I, II, and III tracing showing multiple ventricular ectopics, predominantly in pairs and triplets, that are easily identified because of their prominent S waves. The PP interval is undisturbed and the sinus rate is 150.

On examination the patient was found to have a suprapubic mass with significant lower abdominal tenderness. The Foley catheter was withdrawn and the patient was recatheterized by a urologist, following which 1500 cc of urine promptly returned through the catheter. His blood pressure rapidly dropped to 136/80 mm Hg, and his pulse rate slowed slightly. A repeat electrocardiogram was obtained (Fig. 3).

This tracing shows sinus tachycardia at a rate of 125/min. Minor ST-T changes persist. The voltage is notably low in the limb leads and the lateral precordial leads. There is a 37 mm S wave in V_3 . The poor anterior forces persist, with diminutive R waves in V_1 through V_4 . The P wave voltages in lead II are slightly less prominent. The fourth beat from the left of the tracing has a negative configuration in leads II and III, raising the question of a fusion beat. There is no other suggestion of ventricular ectopy.

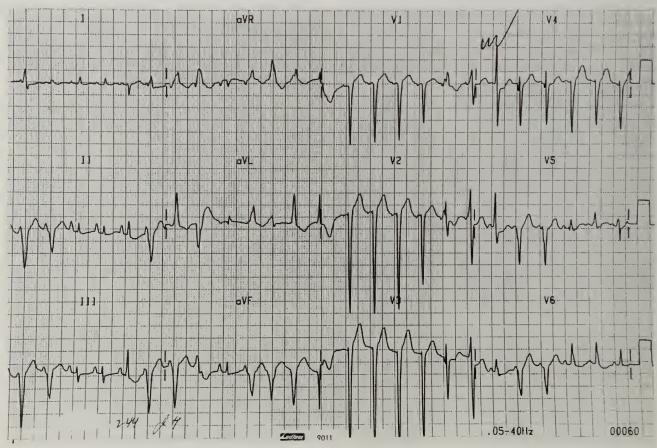
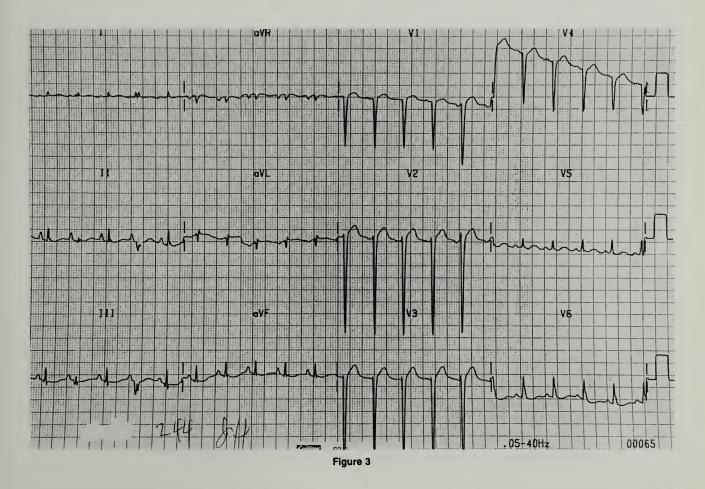


Figure 1





Discussion

These tracings document ventricular ectopy in the presence of urinary retention, pathogenetic mechanisms for which are speculative. Painful stimuli increase plasma catecholamines, which may increase ventricular ectopy by a variety of mechanisms. Increased heart rate may slow conduction in areas critical to the establishment of ventricular reentry by encroaching upon the relative refractory period within these zones.² Alternatively, rate related increased automoticity in individual Purkinje fibers is well documented.3 Blood pressure elevation is known to increase ventricular ectopy.4 Conversely, the baroreceptor-mediated reflex response to blood pressure elevation causes withdrawal of sympathetic tone and elevation of vagal tone with resultant antiarrhythmic influence.⁵ Adrenergic neurotransmitters shorten the duration of action potential and the refractory period of ventricular tissues, in addition to enhancing the rate of spontaneous automoticity of specialized conduction system tissue.6

Fig. 1 shows no significant increase in QT interval. Increased left stellate ganglion activity is associated with increased ventricular tachycardia and sudden death but is accompanied by QT

prolongation.⁷ Psychologic stress is related to enhanced ventricular ectopy.⁸

There is no evidence that autonomic reflex mechanisms due to hollow viscus distension directly causes ventricular ectopy, although this possibility cannot be excluded.

Regardless of etiology, ventricular ectopy was alleviated in this patient by urinary bladder decompression.

CONCLUSION: Ventricular ectopy associated with urinary bladder distension.

REFERENCES

- 1. Goldstein DS: Plasma norepinephrine as an indicator of sympathetic neural activity in clinical cardiology. Am J Cardiol 48:1147, 1981.
- Él-Sherif N: Reentrant ventricular arrhythmias in the late myocardial infarction period. VI. Effect of the autonomic nervous system. Circulation 58:103-110, 1978.
- 3. Wald RW, Wasman MB: Pacing induced automoticity in sheep Purkinje fibers. Circ Res 48:531-538, 1981.
- Harris AS, Ohshima H, Boggs PB: Changes in infarction arrhythmia resulting from changes in arterial blood pressure. Am J Physiol 210:526-534, 1966.
 Blatt C, Verrier RL, Lown B: Acute blood pressure elevation in the ven-
- Blatt C, Verrier RL, Lown B: Acute blood pressure elevation in the ventricular fibrillation threshold during coronary occlusion and reperfusion in the dog. Am J Cardiol 39:523-528, 1977.
- 6. Martins JB, Zipes DB: Effects of sympathetic and vagal nerves on recovery properties of the endocardium and epicardium in the canine left ventricle. *Circ Res* 46:100-110, 1980.
- Circ Res 46:100-110, 1980.
 7. Schwartz PJ, Stone HL: Unilateral stellectomy in sudden death, in Schwartz PJ, Brown AM, Malliani A, et al (eds): Neuromechanisms in Cardiac Arrhythmias. New York, Raven Press, 1978, pp 107-122.
- 8. Lown B, Verrier BL, Rabinowitz SH: Neural and psychological mechanisms in the problem of sudden death. Am J Cardiol 39:890-902, 1977.

ADJUVANT CHEMOTHERAPY FOR BREAST CANCER An NIH Consensus Development Conference September 9-11, 1985

Masur Auditorium
The Warren Grant Magnuson Clinical Center
National Institutes of Health
Bethesda, Maryland

Sponsored by the Division of Cancer Treatment, the National Cancer Institute, and by the NIH Office of Medical Applications of Research

A Consensus Development Conference on Adjuvant Chemotherapy for Breast Cancer will be held in the Masur Auditorium in the Warren Grant Magnuson Clinical Center, National Institutes of Health, Bethesda, Md., Sept. 9-11, 1985. This open forum will focus on the role of adjuvant chemotherapy in the treatment of breast cancer. The forum will address the following questions:

- Have adjuvant chemotherapy trials in breast cancer demonstrated an increase in survival in any group of patients?
- Are there significant adverse effects of adjuvant therapy?
- What is the role of endocrine treatment in the adjuvant therapy of breast cancer?
- When should women with histologically negative axillary lymph nodes receive adjuvant therapy?
- What directions for future research are indicated?

NIH consensus conferences bring together biomedical investigators, practicing physicians, consumers, and representatives of public interest groups to provide a scientific assessment of drugs, devices, and procedures and to evaluate their safety and effectiveness.

To register for the conference or to obtain further information, contact Peter Murphy, Prospect Associates, Suite 401, 2115 E. Jefferson St., Rockville, MD 20852, Tel. (301) 468-6555.

Responsibilities of Prescribing

J. KELLEY AVERY, M.D.

Case Report

A 28-year-old man was brought to the emergency room after fainting at home. In the emergency room, he was examined by a family physician, who found him alert, well oriented, and without obvious neurologic problems. A faint systolic murmur sounded like a click.

The patient was admitted to the hospital where a cardiologist confirmed the suspected diagnosis of mitral valve prolapse. Associated with the characteristic heart sounds there was a disturbing sinus tachycardia with frequent supraventricular extrasystoles which completely cleared with small doses of propranolol.

Subsequent to the diagnosis of his heart condition and beginning of treatment, the patient developed a rather marked cardiac neurosis, and stated that his fears had made him so nervous that he could not adequately perform his duties at work and that his job was threatened. His family physician believed he was dealing with a situational depression, and described diazepam and amitriptyline. When the patient returned for a follow-up visit in two weeks, he was found to be greatly improved. He was productive at work and appeared to be making a good recovery from the depression. His treatment was continued, and he was instructed to make an appointment to be seen in one month. The appointment was made, but not kept. The patient called his physician saying that he "never felt better" and requested a refill on his medication. The prescriptions were refilled by phone and the patient made an appointment for an examination in one month. Neither the phone call from the patient, the missed appointment, nor the prescription refill were recorded in the record.

This same pattern was repeated two more times, with the medication being refilled by phone request. Each time the physician would urge his patient to come in for an examination, and each time the patient promised that he would, but didn't. No notations were made in the record documenting these facts.

Dr. Avery is medical director of State Volunteer Mutual Insurance Company.

It had been over three months since the patient had been seen by his physician, when he called stating that his mother had died suddenly, and requested temporary increase in his dosage of diazepam. The doctor complied, but made the patient promise to come to see him as soon as he got back in town.

About five days later the patient was seen again in the emergency room, this time deeply comatose from an overdose of diazepam and amitriptyline. The overdose was successfully treated, but a lengthy hospitalization for drug dependency ensued, and the patient filed a lawsuit charging his physician with contributing to his drug addiction.

Loss Prevention Comments

The plaintiff established by expert testimony that (1) the family physician was below the standard of care in continuing to treat a depressed patient without psychiatric consultation, and that (2) the family physician was below the standard of care in continuing to prescribe the diazepam and amitriptyline without examining the patient.

The defendant physician had no documentation of the phone calls from his patient, the instructions to come in for examination, or the patient's repeated promises to do so. The patient denied that he was instructed to return for examination or that he promised he would. A sizeable settlement of this claim was necessary.

Once again it was clear that when a swearing contest develops between a physician and his patient, unless there is documentation in the patient's record to support the contentions of the doctor, he cannot ordinarily be successfully defended.

MAY, 1985 297

Hypertension—A Public Health Problem

BARBARA LEVIN, M.D., MPH

It was not so long ago that a disease had to be infectious to be considered a public health problem. Today departments of public health are expected to become involved in the screening, diagnosis and/or treatment of some diseases simply because large numbers of people are affected by them. If significant side effects can be prevented, then there is an even greater tendency to involve public health resources.

Hypertension involves 60 million people in the United States (one out of every five adults)¹ and results in great morbidity and mortality, which often can be prevented. For these reasons, hypertension was discussed as a "public health problem" by the public health physicians at the annual Tennessee Medical Association meeting in April. Dr. Harriet Dustan, director of the Cardiovascular Research Institute at University of Alabama-Birmingham, and chairperson of the Joint National Committee on Detection, Evaluation, and Treatment of Blood Pressure keynoted the session and discussed the 1984 report of the Joint Committee.

The last Joint Committee Report was made in 1980. Dr. Dustan's committee had a great deal of new information to consider relative to successful management of hypertension:

- 1. Publication of major clinical trials, the Hypertension Detection and Follow-Up Program (HDFP) and Multiple Risk Factor Intervention Trial (MRFIT),
- 2. Introduction of new antihypertensive agents,
- 3. Evidence concerning the effectiveness of nonpharmacologic treatment, and
- 4. Analysis of epidemiologic data on the risk or premature morbidity and mortality related to blood pressure levels.

The new report includes recommendations on mild hypertension, use of nonpharmacologic

therapy, revised stepped care, and management of special groups, i.e., blacks, children and pregnant women.²

The effectiveness of antihypertensive drugs in reducing elevated pressure is well established; nonpharmacologic approaches, however, are being recognized as definite interventions for mild hypertension or as an adjunct to drug therapy. The 1984 report makes recommendations in seven areas of particular relevance:

- 1. Since obesity is strongly related to elevated blood pressure,³ weight reduction should always be an integral part of therapy, if appropriate.
- 2. Dietary sodium restriction may reduce elevated blood pressure⁴ as well as limit the degree of potassium wastage. Moderate sodium restriction (2 gm of sodium in 5 gm of salt) is therefore recommended.
- 3. Since alcohol consumption (more than 2 oz/day) increases blood pressure, 5 counseling should be provided to hypertensives on ethanol intake.
- 4. Although data are not conclusive, the reduction of dietary fat apparently affects hypertension. It is advisable to control high levels of blood cholesterol to decrease the risk of cardiovascular disease.
- 5. Since nicotine increases blood pressure, avoidance of smoking is strongly recommended.
- 6. Regular isotonic exercise has a positive effect on reducing blood pressure. All hypertensive patients should be counseled on initiating and maintaining an exercise program.
- 7. Behavioral modification techniques such as biofeedback and relaxation have shown some modest⁷ but significant reduction in blood pressure for study groups. While important, these should be seen as only a part of a comprehensive treatment program.

Lack of long-term adherence to any treatment program is the major problem in controlling blood

From the Tennessee Department of Health and Environment, Nashville.

pressure today. Suggestions developed by the National High Blood Pressure Education Program for improvement of such follow-up include8:

- 1. Simple drug regimens,
- 2. Written instructions on dose, side effects, and therapeutic goals of each medicine,
- 3. Cost effective treatment plans,
- 4. Changing drugs to cope with side effects,
- 5. Improved convenience of office visits,
- 6. Reminders of appointments,
- 7. Follow-up on missed appointments,
- 8. Special attention to nonadherent patients,
- 9. Praise for success in meeting goals,
- 10. Involvement of family members and others as support.

Federal funds first became available for hypertension programs through the State Health Department in 1977. The State Hypertension Program funds nine project sites in Tennessee. In the past the focus has been on mass screenings, but now the emphasis is on long-term follow-up and tracking. These sites geographically encompass 48 of the state's 95 counties, and serve high-risk target groups as well as areas in the state that have the highest morbidity and mortality rates attributed to hypertension.

May is designated each year as High Blood Pressure Month across the nation. This year, Tennessee's theme will be "Make Control Your Lifetime Goal." The Health Promotion and Public Affairs sections of the Tennessee Department of Health and Environment are working with local health departments, voluntary agents, private organizations, and other interested groups to promote this high blood pressure public awareness program throughout the state.

REFERENCES

- 1. Blood Pressure Levels in Persons 18-74 Years of Age, 1976-80 and Trends in Blood Pressure from 1960-1980 in the United States, Vital and Health Statistics, series II. US Dept of Health and Human Services, National Center for Health Statistics, 1984.
- 2. Dustan HP, et al: 1984 Report of the Joint National Committee on Detection, Evaluation and Treatment of High Blood Pressure. US Dept of Health and Human Services, NIH Publication No 84-1088, June 1984.
- 3. Report of Hypertension Task Force, vol 9. No 79-1631, US Dept of HEW, Sept 1979.
- Paujo J, et al: Moderate sodium restriction and diuretics in the treatment of hypertension. Am Heart J 85:22-34, 1973.
 Beevers DG: Alcohol and hypertension. Lancet 2:114, 1977.
 Parijs JM, Daugherty RM, Pusha P: Reduction of blood pressure associated and the properties of the pro
- ates with dietary polyunsaturated fat. Prev Med 12:60-69, Jan 1983
- 7. Engel BT, Glasgon MS, Gaarada KR: Behavorial treatment of high blood essure; III Follow-up results and treatment recommendation. Psychosom Med
- 45:23-29, 1983.

 8. Collaboration in High Blood Pressure Control; Among Professionals and with the Patient: A Problem Statement by the Coalition Committee of National High Blood Pressure Education Program, US Dept of Health and Human Services, National Institute of Health, June 1984.



We mean the kind of sleep that comes from knowing you practiced medicine the way it was meant to be practiced. No compromises.

As a Navy physician, you'll be working at some of the most modern facilities in the world. You'll be given a practice that's as varied and challenging as any you'll find in a civilian settina.

And, for a Navy physician, administrative details are kept to a minimum. A highly trained staff of professionals attends to most of the paperwork. There are a lot of great benefits that go with being a Navy physician. Good pay. A family life. Even 30 days' paid vacation a year.

The Navy currently has residency and fellowship positions available in medical centers throughout the United States.

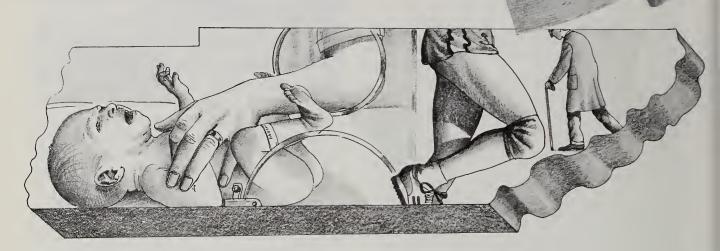
Residencies	Fellowships		
Anesthesia	Cardiology		
Family Practice Internal Med	Endocrinology/		
Neurosurgery	Metabolism Gynecologic		
Ob/Gyn			
Pathology	Oncology		
Pediatrics	Hand Surgery		
Surgery	ů ,		
Urology	Pulmonary Med		

For more information please contact:

LT. MIKE HOPKINS **NAVY MEDICAL PROGRAMS**

IN NASHVILLE—(615) 251-5571 IN TENNESSEE—(800) 342-8629 OUT OF STATE—(800) 251-2516

TENNESSEE MEDICINE TODAY



Teens not immune to running injuries

Middle-aged runners are not the only ones who have to be careful to avoid injuries. A review of the records of a physician associated with the University of Tennessee College of Medicine in Chattanooga clearly indicates that adolescents are also subject to serious musculoskeletal injuries when

they run long distances.

Over a four-year period, Dr. John Paty treated 170 patients, including 19 teenagers, for problems associated with running. The 11 boys and eight girls he saw (mean age: 15.6 years) all took part in track or cross-country at their schools. The boys averaged 32 miles of training per week, while the girls averaged 12 miles, with the duration of running ranging from two weeks to two years. Over 70% of the injuries involved the knee or leg. Knee injuries were more common in boys. Despite their running longer distances, the boys had no stress fractures, but four of the girls did have this injury—three fractures of the tibia and one of the fibula. Generally, the diagnoses in the young runners were similar to those found in adults. More than two-thirds of the injuries were related to training errors: these teenagers ran too far, too fast, too soon after the start of their competitive season. Dr. Paty recommends more strengthening and stretching exercises, replacement of worn-out running shoes and a year-round graduated mileage program to prevent these kinds of injuries.1

Routine cesarean unnecessary for small "preemies"

Some obstetricians have recommended routine cesarean

section for delivery of the very small newborn. But a study of 109 singleton births at Vanderbilt University Hospital with birth weights from 500 to 1000 Gm suggests that cesarean section offers no advantage. In terms of neonatal morbidity and mortality, there was no difference between cesarean section and vaginal delivery, when labor was present and the fetus had a cephalic presentation. Unless there are maternal or fetal indications for cesarean section, vaginal delivery would seem to be a safe and appropriate procedure.2

Young women's disease in old men

Systemic lupus erythematosus (SLE) is predominantly a disease of young females. A report by Nashville rheumatologists Alan N. Baer and Theodore Pincus, however, points out that it should be considered in the elderly male with a debilitating illness. Within a 14-month period, Drs. Baer and Pincus observed five elderly men with life-threatening symptoms, including fever and weight loss, often associated with polyarthritis. The diagnosis of SLE was established only after considerable delay and extensive, costly evaluations. In four cases it was confirmed by the presence of DNA antibodies, and corticosteroid therapy was effective in three.

It was suggested that SLE should be a prominent diagnostic consideration in elderly male patients with fever and weight loss for which there is no obvious explanation.3

References: 1, Poty JG Jr, Swofford D: *J Adolesc Health Care 5*:87-90, Apr 1984. **2**. Barrett JM, Baehm FH, Vaughn WK: *JAMA 250*:625-629, Aug 5, 1983. **3**. Baer AN, Pincus T: *JAMA 249*:3350-3352, Jun 24, 1983.

president's



CLARENCE R. SANDERS

Facing the Future

Dr. Albert Schweitzer once said something to the effect that "to be selected for recognition by one's peers means more than the honor itself." I feel much the same as I embark upon this year of serving as president of the Tennessee Medical Association. I appreciate the confidence which you have placed in me and I will endeavor to carry on in the fine tradition of the distinguished men who have preceded me to this office.

I would especially like to commend Dr. Thomas Ballard for the significant contributions which he made during his tenure as president. He traveled extensively across the state, making speeches and attending meetings, thereby assuring that the voice of the TMA was heard. At a time when the image of the medical profession virtually hangs in the balance, it is vitally important that we accurately present our message to the public. Dr. Ballard did a fine job in this regard.

From all indications, the medical profession is facing perhaps the most challenging and perplexing period in its history. Never before have we, as practicing physicians, come under such intense scrutiny and fire from the public than in the past few years. Indeed, it would appear that not only our profession, but the entire health care field, is in a state of flux. We are being bombarded on every side with new concepts in health care and with new challenges to our individual freedom to care for our patients. We must be exceedingly careful that, in our desire or haste to achieve certain personal and professional goals, we do not lose sight of those fundamental tenets which formed the basis of our profession. The power and importance of compassion, concern, and caring cannot be underestimated in the daily practice of medicine.

During the coming months this column will address many of the challenges and trends which continue to face us as medical practitioners. It is essential that we keep abreast of these developments and meet arising challenges with confidence and with courage.

I am excited at the prospect of serving as your president and I look forward to being able to visit with many of the component medical societies. Together we will continue our efforts to make the TMA one of the most vigorous and progressive associations in the nation.

clarence R Sanders MP

journal of the tennessee medical association

PUBLISHED MONTHLY

DEVOTED TO THE INTERESTS OF THE MEDICAL PROFESSION OF TENNESSEE

OFFICE OF PUBLICATION: 112 LOUISE AVENUE, NASHVILLE, TN 37203

JOHN B. THOMISON, M.D., EDITOR
ADDISON B. SCOVILLE, JR., M.D., ASSOCIATE EDITOR
JEAN WISHNICK, MANAGING EDITOR

Acceptance for mailing at special rate of pastage provided for in Section 1103, Act of October 3, 1917, authorized July 15, 1932

Copyright for protection against republication. Journals of the American Medical Association and of other state medical associations may feel free to quote from this Journal whenever they desire merely giving credit to this publication

Address papers, discussions and scientific matter to: John B. Thamison, M.D., Editor, P.O. Box 70, Nashville, TN 37202

Address organizational matters to L. Hadley Williams, Executive Director, 112 Louise Avenue, Nashville, TN 37203

COMMITTEE ON SCIENTIFIC AFFAIRS

OSCAR M. McCALLUM, M.D., Chairman, Henderson SIDNEY L. BICKNELL, M.D., Jackson WINSTON P. CAINE, M.D., Chattanooga CLAUDE H. CROCKETT, JR., M.D., Bristol FRANCIS W. GLUCK, JR., M.D., Nashville JOHN B. THOMISON, M.D., Nashville, Ex-Officio

MAY, 1985

editorials

Work Like Hell and Advertise

Just before the most recent quarterly meeting of the Nashville Academy of Medicine, its Board was petitioned by a representative of a somewhat disjointed organization of the local elderly for a place on the program to present their problems with the medical profession. Because our agenda was already too full we had to refuse, whereupon

the meeting was picketed in a more or less friendly way by a group of senior citizens, mostly little old ladies (they did behave as ladies), passing out leaflets enumerating their complaints. Though not entirely unfounded, those complaints were based more on misinformation than on any individual's experience. It should come as no shock to you that that misinformation stemmed directly from government propaganda assuring them their medical care was being compromised because the majority of doctors refuse to accept assignment. They were therefore not a little astonished to learn (or at least be informed-whether they learned it or not I can't say) that with few exceptions all doctors accept assignment sometimes; it is only that most prefer to retain some autonomy in making the choice.

Governments have a way of working their will, and in this case it is their will to control the "health care industry." To do that they must control its purveyors. In a tyranny that is easy; in a free state it requires devious means.

Most of the world's population exists and always has existed at the sufferance and for the propagation of and service to the state, and changing regimes has meant only that the regime has changed. At the expense of mass executions each time, the Russians traded Tsarist oppression for Bolshevik oppression under Lenin and Trotsky, which gave way to Stalinist oppression and ultimately to the more ostensibly benign but nonetheless oppressive modern Politburo rule on which a change in party secretary (Premier) has little effect.

I have on my desk two absolutely contradictory reports from impeccable sources, one of them lauding the Nicaraguan Sandanistas and decrying contra excesses, and the other castigating the Cuban-Soviet led Sandanistas for destroying the economy and individual freedom and praising the contras as freedom fighters. Both are eyewitness firsthand accounts by committed, involved individuals. Closer to home, one need only take the short trip across the Niagara River from New York to Canada to find oneself in a foreign country where George Washington is looked upon as a traitor and not a hero. In the War of 1812, American troops did after all burn Toronto, the home of disaffected American colonists.

The problem is one of too many people in the world, with the wealth concentrated in the hands of only a few, but this has never changed since the time shortly after his expulsion from the Garden of Eden when man began to own things. That

did not change with so-called communism, either; the revolution simply changed the identity of the hands holding the wealth. The well-off under the Tsar were royalty, nobility, and the gentry, and those useful to them, such as the military, artisans, merchants, and so on. The well-off under the Soviet system are the party functionaries and those useful to them, such as the military, scientists, and so on.

There has never been very much altruism in the world, and physicians through the ages have accounted for more than their share of it. It is in just as short supply now as ever, but probably no more so. Nevertheless, it is public perception of physicians that we should be filled with it and aren't. While I think to promote such an image might be hypocritical, we need somehow to assure the public at the same time that our primary interest is not purely materialistic and mercenary, which the government and the media assure them it is.

I daresay most of the demonstrators at the Academy meeting believe their own personal physicians give them good care, and in most cases make allowances for their financial situation. Their concern is a corporate one for all those "others out there" without the good fortune to be cared for by their own compassionate physicians. Since their government and the media tell them all those poor folks are being oppressed by all of us rich doctors, it must be so, and there are, in fact, enough such in our midst to encourage such a belief.

The government can do little more with restrictive legislation than harass us. The only way it can stifle Medicine is through disruption of the doctor-patient relationship. That relationship is therefore being progressively eroded through the ascendency of the impersonal touch of the HMO, the agency preferred by government for the provision of medical services, ostensibly for the sake of economy.

We need to be at least as effective with our propaganda as the government is. To take good care of our patients is the first requirement, but it is not enough. We must educate the public, and our satisfied patients are our first avenue to the public ear. But that also may not be enough. To that end the AMA has mounted a multimillion dollar public relations campaign to improve Medicine's image. Even that, though, is insufficient without the personal touch. Both are necessary.

To counter governmental inuendo we need

only tell the people the truth. In this much blessed nation, that is fortunately still possible, and the well known paraphrase of Poor Richard's exhortation is still a good formula for success:

> Late to bed and early to rise, Work like hell, and advertise.

> > J.B.T.

State Medical Board Minutes

At the request of the Tennessee State Board of Medical Examiners we begin this month publishing the minutes of their deliberations. Since these minutes contain material affecting the careers of the individuals who come before the board, two questions that arose in my own mind will doubtless occur to you as well, and so I will answer them for you here. The questions concern the legality and the propriety of publishing such sensitive information.

As to the legality, counsel advises that since the Board, like every other state body, operates under the sunshine law, which means they must be open to public scrutiny, its minutes are a matter of public record, thereby removing any legal barriers. Not everything legal, however, is necessarily either moral or appropriate, so why publish them at all?

Every week or so the newspapers carry an article about individuals fraudulently engaged in the practice of medicine. These are frequently individuals who have been deprived of their license elsewhere. It is hard to get the word around, and the Federation of State Medical Boards has urged publication of proceedings of their member boards to facilitate nationwide coverage. Other states are already cooperating, and we are simply joining them.

Our first duty is to the welfare of our patients. By the time the questionable activities of a physician enter the purview of the medical board he is usually—not always, but usually—recalcitrant, and by bringing those activities out into the light of day, the *Journal* is being of service to the public, which means to our patients.

In addition to that, the Board frequently revokes or restricts licenses because of abuse of prescription writing privileges. Individuals abusing that privilege can be a major illicit source of controlled substances. It would seem the possibility of getting into print might tend to make our less compulsive colleagues a bit more careful

in their prescription writing, and in our drug-oriented society, every little bit helps.

Keep up with the board proceedings. In so doing you might prevent some healthy citizen from becoming an emergency case of something or other—not to mention dead.

J.B.T.

Semi-Literate Illegitimacy, or Illegitimate Semi-Literacy

When I was a medical student, "audiovisual" was a pretty simple concept, and in fact the term had not yet been coined. By the time Dr. Ernest Goodpasture retired a dozen years later, home tape recorders, though somewhat primative, were in use, and we decided that since he was one of the world's four or five preeminent virologists, having been involved in viral research from its beginning, it would be a good idea to record his lectures on viruses given to the second year medical class. Though we were able to recover an acceptable transcript, the recording itself was a disaster.

The term audiovisual now encompasses a vast armamentarium, both audible and visible, and modern editing techniques could have rendered Dr. Goodpasture's presentation flawless. It has transformed both instruction and entertainment. Using the laser disc and a computer, a student can react individually with the instructor just as though he were actually present—except of course that the exchange is dispassionate, which understandably has both good and bad features. The brilliant pianist Glenn Gould retired from the concert stage in 1964 at the age of 31 to perfect his art through recordings, contending that while other artists—painters, sculptors, and writers — could tinker with their works until they were shaped to their satisfaction for eternity, the concert artist had to start from scratch with each performance. Though the crowds thronged about Jesus of Nazareth during his ministry, Billy Graham preaches to more people through a single TV program than Jesus did altogether in his entire three years. When Birgit Nielssen sang Electra on the first live Metropolitan Opera telecast about ten years ago, witnesses of her performance exceeded considerably the combined total of all who had seen Richard Strauss' opera since it was first performed in 1908.

In a made-for-TV movie a little while back, as she is leaving earth to return to her own planet, the heroine answers her newfound earthbound lover's pleas not to go by answering that she will always be with him (a la Obiwan Kenobe, I guess), and that she will impart to him all her vast knowledge of esoterica by putting it into his brain "as though you have always known it." That may seem outlandish (pun intended), but subliminal teaching is a fact, useful at the moment primarily for advertising and propaganda, but predictably expandable. I daresay someday it will be a primary form of instruction, and will be done as we sleep—unless of course we blow ourselves up first.

It sounds like the best of all possible worlds go to school while we sleep and play all day. I worry, though. I worry that they will teach children to say such things as, "You gave it to he and I," or "If I was in your situation . . ."—but then they say those things already anyway, because they hear them every day on the tube, and they read them too. Even the Wall Street Journal recently (and I hope inadvertently) bowed to what seems to be emerging convention (God forbid) by commenting that "if it was in our best interests. . . . " (I'll bet some of our readers even now won't know that there's anything wrong with that construction.) We may all one day wind up as what a sergeant of my acquaintance referred to as iggorant bastids.

I only hope that if they teach me by remote control it won't be on a daily basis, but just daily.

J.B.T



Elbert Edwin Hines, age 54. Died February 28, 1985. Graduate of University of Tennessee College of Medicine. Member of Memphis-Shelby County Medical Society.

William A. Lamb, age 39. Died February 4, 1985. Graduate of University of Chicago Pritzker School of Medicine. Member of Sullivan County Medical Society.

Alex B. Shipley, age 79. Died February 28, 1985. Graduate of University of Tennessee College of Medicine. Member of Memphis-Shelby County Medical Society.

Minutes of the Tennessee State Board of Medical Examiners Meeting

October 31, 1984

Members Present: I. Lee Arnold, M.D.

Duane C. Budd, M.D.

Howard R. Foreman, M.D.,

Secretary

Alvin J. Ingram, M.D.

Members Absent: John H. Burkhart, M.D.,

President

Dr. Howard Foreman, secretary, called the meeting to order at 9:00 a.m. at the Legislative Plaza in Nashville.

Reciprocity applications approved were: Charles S. Archer, M.D.; Frank L. Artress, M.D.; Janet K. Johnson, M.D.; and Pedro P. Llaneza, M.D.

The reciprocity request of **Omar Adams**, **M.D.**, was postponed for further study as his Basic Sciences were done in an academic program rather than a medical school resulting in a two-year medical school program.

Drs. Sung K. Choi and Linda A. Clayton were declared ineligible for Tennessee medical licensure due to failure to meet the individual day FLEX score requirements.

Stephen L. Gipson, M.D., a graduate of St. George's University, was issued a medical license restricted to performing assigned duties of his residency program with a directive to reapply for Tennessee licensure upon completion or termination of the program. Dr. Gipson appeared before the Board on Sept. 12, 1984 and requested that the restrictions be lifted. Dr. Foreman was authorized to examine training evaluations and supervisor recommendations of Dr. Gipson and to approve unrestricted licensure at his discretion. Dr. Foreman advised the Board that he had reviewed these items and was not convinced that restrictions on Dr. Gipson's license should be removed. He asked the Board to reconsider the updated file. The letter from Robert S. Crumrine, M.D., Professor and Chairman of the Department of Anesthesiology dated Sept. 10, 1984 was presented which read:

Dear Sir:

This letter is to confirm the fact that Dr. Stephen L. Gipson has been and presently is a member of the resident staff in Anesthesiology at the University of Tennessee. To date he has performed satisfactorily and is expected to do so until completion on February 28, 1985. I can recommend him for medical licensure in the State of Tennessee.

Yours very truly,

Robert S. Crumrine, M.D.
Professor and Chairman
Department of Anesthesiology
U.T.C.H.S.

The Board also reviewed resident evaluations and voted unanimously to retain the restricted status of Dr. Gipson's Tennessee medical license.

FLEX examination applications of Drs. Amy L. Budoff and Roger K. Pons were approved and that of Dr. Minerva Couret taken under advisement for further information regarding her medical school. Moshe E. Wagh, M.D., was denied FLEX candidacy as he is a graduate of CETEC University which has been closed due to fraudulent medical diplomas, and didn't establish the sufficiency of his medical curriculum.

Leonard J. Brooks, M.D.—Reinstate Request

On Jan. 18, 1979, the Board revoked the Tennessee medical license of Dr. Leonard Brooks after finding him guilty of performing illegal abortions with no hospital privileges. Attorney Frank Scanlan advised that the U.S. Supreme Court had ruled the Tennessee statute too restrictive and that the Davidson County Chancery Court had remanded the case back to the Board of Medical Examiners for review. Dr. Foreman moved that the records of the court decision be reviewed and the matter brought back before the Board and the motion passed unanimously.

Drew P. McFarland, III, M.D.—Reinstate Request

The Tennessee medical license of Dr. Drew Mc-Farland was revoked on Sept. 26, 1979 as a result of having been found guilty of prescribing gross amounts of controlled drugs. Dr. McFarland petitioned the Board for reinstatement of his license. Following opposing remarks by General Tommy Thompson, the Board voted unanimously for licensure reinstatement with the following restrictions: (1) no DEA certificate anywhere, (2) practice is restricted to administrative medicine with no actual patient contact, and (3) no prescription writing of any kind.

Robert D. Piat, M.D.—Reinstate Request

No action was taken on the reinstatement application of Dr. Robert Piat pending a review of charges, actions, etc. surrounding the circumstances which resulted in Dr. Piat's surgical privileges at the Methodist Hospital of Jonesboro being summarily suspended. Dr. Piat was directed to sign a release form permitting the release of any and all requested information to the Board.

Odis Strong, M.D.—Reinstate Request

The license of Dr. Odis Strong was revoked on May 25, 1983 after the Board found him guilty of being convicted in a U.S. District Court on 16 counts of aid-

ing and abetting in mail fraud and swindles and one count of conspiracy in mail fraud. Dr. Strong was sentenced to five years in prison but the Board was informed that he was actually incarcerated from January 1983 until May 1984. The Board discussed the case but decided to take no action at the present time. Dr. Strong's license remains revoked.

James L. Early, M.D.—Rehearing

The medical license of Dr. James Early was revoked by the Board on July 31, 1984 but a rehearing was granted at the Sept. 12, 1984 meeting. Dr. Early was not in attendance at the July 31 meeting and indicated that he had additional proof that he would like to present to the Board.

The hearing was conducted in accordance with the Administrative Procedures Act. After hearing additional testimony, the Board unanimously voted to accept its previous findings of fact and conclusions of law and again found Dr. Early guilty. Dr. Duane Budd moved, Dr. Alvin Ingram seconded, and the following motion passed unanimously: The previous revoked license of Dr. James Early is reinstated with stipulations consisting of no DEA certificate anywhere; license is restricted to administrative medicine only with no direct or indirect patient contact; and license is valid only so long as Dr. Early participates in the Tennessee Impaired Physician Program and retains their advocacy with license voluntarily surrendered if he drops out of the program or loses their support.

Board members volunteering to serve as chief proctors for the Dec. 4-6, 1984 FLEX examination administration were: December 4—Dr. Alvin Ingram; December 5—Dr. Duane Budd; December 6—Dr. Lee Arnold.

FLEX I-II

The Board voted to require any FLEX I-II examinee to pass both parts in one sitting, to require a passing score of at least 75% and determined that U.S. applicants will be eligible for both components immediately after graduation from medical school.

Opinions Concerning Nurse Practitioners and Use of Physician Assistants

Following an extended discussion, the Board agreed on the following opinions:

- 1. No person can be utilized as a Physician Assistant (as defined in T.C.A. 63-19-103) unless they are a Certified Physician Assistant as defined in Tennessee Code Annotated 63-19-103 Qualifications. More specifically, unlicensed medical school graduates, licensed practical nurses and other persons cannot be utilized as Physician Assistants.
- 2. Physician Assistants cannot operate (as they are defined in the Physician Assistant law) unless responsibly supervised by a designated physician, even if the Physician Assistant is a hospital employee. Further, no physician can responsibly supervise more than two Physician Assistants, wherever the Physician Assistant is employed. (T.C.A. 63-19-105 Supervising Physicians—Duties)
- 3. Physician Assistants cannot be utilized in a hospital unless said Physician Assistant is operating under a protocol prepared by the supervising physician, said protocol being signed by the supervising physician and the Physician Assistant. The signed protocol must be approved by the hospital credentials committee.

4. Physician Assistants cannot perform surgical procedures, including sutures, reducing/setting fractures, or casting fractures.

5. Physician Assistants cannot order any medications for a hospital patient. If suggested medications are outlined in the protocol in the patient's chart, a Physician Assistant can suggest to the registered nurse in charge of that patient that the medication outlined should be administered by said nurse. However, if said nurse has any questions about the appropriateness of administering to the patient the medication suggested by the Physician Assistant, the nurse shall contact the supervising physician before administering the medication. It is the considered opinion of the Board of Medical Examiners that a Physician Assistant does not "order" medications, but rather makes suggestions based on the physician's protocol in the patient chart. In particular, it must be remembered that Physician Assistants do not have independent controlled substance prescribing privileges and are thus not eligible for Independent Drug Enforcement Agency prescribing privileges.

Ray Hall, Health Related Boards director, informed the Board of the results of the "Umbrella" Board Committee Study.

The meeting adjourned at 5:00 p.m.

Minutes of the Tennessee State Board of Medical Examiners Meeting

February 20, 1985

Members Present:

I. Lee Arnold, M.D. Duane C. Budd, M.D. John H. Burkhart, M.D.,

President

Howard R. Foreman, M.D.,

Secretary

Alvin J. Ingram, M.D.

Members Absent: Others Present: None

Ray C. Hall, Director, Health

Related Boards

Patricia Newton, Attorney Leslie Humphreys, Manager,

Investigation

Marvelene Corcoran, Administrative Assistant

Kimberly Thompson, Secretary

The meeting was called to order at 8:50 a.m. by Dr. John Burkhart, president, at the James K. Polk Building in Nashville.

Reciprocity applications of Drs. John L. Anderson and Gary A. Fairchild were approved with Dr. Howard Foreman voting against approval. Reciprocity applications also approved were Drs. Duane W. King and Jami G. Shakibi.

The reciprocity application of Omar J. Adams, M.D., was not approved. Dr. Adams must appear before the Board and detail his practice plans, etc.

Dr. Marcel Y. Eluhu was not eligible for Tennessee licensure as he failed to achieve the required Basic Science score of at least 70%. It was noted that Dr. Eluhu is not Board certified in any specialty and there was also a question as to whether the quality of medical education received by him would be determined to be acceptable. Dr. Eluhu graduated from the American University of the Caribbean.

James E. Naifeh, M.D., was denied Tennessee medical licensure as he failed to establish that he graduated from a medical school with an acceptable curriculum or to establish by other means that he had an adequate medical education.

The license of Patrick B. Craven, M.D., was reinstated on July 21, 1983 but was restricted to the performance of duties assigned to meet requirements of a residency program only with no outside duties or responsibilities of the program. He was directed to notify the Board upon completion of the residency program and to reapply for licensure. Dr. Craven reported that he had completed a six-month residency training program at the University of Tennessee and is active in the TMA Impaired Physician Program and has a

contract with them. The Board voted to lift the previous restrictions and to place Dr. Craven's license on indefinite probation provided he continues to participate in the TMA Impaired Physician Program and abides by their contract. He is to have no DEA certificate.

John W.C. Fox, M.D., failed to renew his Tennessee medical license and it was revoked March 1, 1982. He appealed to the Board for reinstatement. As Dr. Fox is Board certified in anesthesiology and his practice has been in this specialty, Dr. Fox was asked to limit his practice to anesthesiology. The Board voted to reactivate Dr. Fox's license upon receipt of a letter from him agreeing to practice only anesthesiology unless he first notifies and obtains approval from the Board of his intention to practice in another field.

Reinstatement applications also approved were Joseph A. Little, M.D., and Samuel A. Powers, M.D.

Dr. Loreimer H. Pangilinan has submitted letters to the Board which rambled and were incoherent. These and other documents suggesting possible mental problems were presented to the Board. The Board ordered Dr. Pangilinan to submit to a complete mental evaluation by Dr. Otto Billig, psychiatrist, for its review. Dr. Pangilinan may also obtain a report from a psychiatrist of his own choosing if he so desires. Upon receipt of the mental evaluation(s), a decision will be made as to whether the 1985 annual renewal certificate should be renewed. Dr. Pangilinan was advised that he may continue using his license until such decision is made.

Approval of the 1985 renewal certificate application of Sylvia Hall, M.D., had been withheld due to her mental condition. Dr. Hall requested that approval be reconsidered. The Board expressed its belief that Dr. Hall had made progress with her recovery but felt that she should continue psychiatric treatment, find a definite practice location, and report back to the Board. Dr. Hall's certificate was not renewed.

Charles Bomar Herrin, M.D.—Hearing

The hearing was conducted in accordance with the Administrative Procedures Act with Mr. David Haynes presiding as hearing officer and Attorney Pat Newton representing the state. Dr. Herrin had no legal counsel present.

Notice of charges against Dr. Charles Herrin included: (1) obtaining controlled substances for personal consumption by writing prescriptions in other persons' names; (2) obtaining controlled substances for personal consumption by writing prescriptions for "Professional Use," Dr. Herrin's "Office Use," and

MAY, 1985

"Dr. Bomar Herrin"; and (3) writing prescriptions for controlled substances for personal use in other persons names and getting them filled in locations as far as 100 miles away from his office location and residence.

Dr. Herrin advised the Board that he was guilty of the charges. Dr. David Dodd, a representative of the TMA Impaired Physician Program, confirmed that Dr. Herrin is active in the program and is in compliance with their contract.

The Board voted unanimously to find Dr. Herrin guilty as charged. Dr. Duane Budd made a motion to allow Dr. Herrin to continue to hold a valid Tennessee medical license with the following stipulations: (1) The license is valid so long as Dr. Herrin continues to meet the terms of the Impaired Physician contract currently in effect with said contract being renewed annually for five years and officials of the program are authorized to report any infractions to the Board; and (2) Dr. Herrin shall submit a list or copies of all prescriptions written to the director of the Impaired Physician Program who will advise the Board of any transgressions.

Jerry L. Slay, M.D.—Consent Agreement

At a Board meeting held on July 31, 1984, Dr. Jerry Slay was charged with and admitted that he had personally used drugs in such a manner as to potentially adversely affect his ability to practice medicine. The Board ordered him to continue to participate in the Impaired Physician Program, to comply with all terms and conditions of the contract and to send a copy of the contract to the Board office.

Dr. Slay was now charged with violating his license restrictions by failing to comply with all terms and conditions of his contract with the Impaired Physician Committee and reinstituting the habit and practice of ingesting intoxicants, narcotics or controlled substances. State Attorney Pat Newton proposed a consent agreement whereby Dr. Slay agreed that his medical license would be suspended indefinitely and he could not reapply for a period of at least six months.

The Board expressed perplexity and frustration over its seeming inability to secure adequate funding appropriations which had resulted in a lack of Board office secretarial support, etc. It was noted that additional programs and duties continue to be legislated to the Board with no provision for the clerical and funding resources needed for actual administration of these programs. The Board agreed to meet with TMA officials and key legislators in its efforts for constructive recognition of these ongoing problems.

Respiratory Therapists

Mr. Mark Rainey of the Tennessee Society for Respiratory Care addressed the Board with respect to their proposed Legislative Act authorizing an advisory council to the Board of Medical Examiners. As the Board had not previously seen a copy of the proposed legislative draft, no action was taken at this meeting. Board members will review the materials and consider the feasibility of the Medical Board accepting this program.

Drs. Lee Arnold, Duane Budd, and Alvin Ingram volunteered to represent the Board at the Federation's annual meeting to be held in Atlanta, April 25-27, 1985.

Home Health Agency Treatment Plans

Dr. Duane Budd reported that the TMA Legislative Committee would like the Medical Board's official opinion as to the legality and ethics of the practice of physicians who are not the attending physician-of-record who are signing Treatment Plans for various home health agencies without ever having seen the patient. Following an in-depth discussion, the unanimous opinion of the Board was adamant opposition to this unprofessional, unethical practice.

Revised reinstatement applications were approved. A detailed report of Investigations and Activities of the Health Related Boards was presented by Leslie Humphreys and Patricia Newton.

The Board approved a written interpretation of an opinion issued at its Oct. 31, 1984 meeting relating to the utilization of Physician Assistants.

Meeting adjourned at 2:30 p.m.



OWNED AND PUBLISHED BY THE ASSOCIATION

JUNE, 1985 VOL. 78, NO. 6

Abstract of the Proceedings of the House of Delegates Of the Tennessee Medical Association Memphis, Tennessee—April 10-13, 1985

Call to Order

The 150th annual meeting of the Tennessee Medical Association was conducted in Memphis, Tennessee, April 10-13, 1985, with headquarters in the Hyatt Regency Hotel. The House of Delegates met initially at 3:00 p.m., April 10, 1985, with Malcolm R. Lewis, M.D., Nashville, presiding as speaker of the House and F. Hammond Cole, Jr., M.D., Memphis, as vice speaker.

Invocation

At the opening session, John H. Burkhart, M.D., Knoxville, gave the invocation: "Let us pray. Almighty God, our Father, before we begin the business of this House of Delegates, we look to you for guidance and for inspiration. We believe most fervently that, as practitioners of a noble profession, we have been called to be servants of God by being healers of men. We thank you for the love with which we are created, the grace by which we are sustained, and the mercy by which we are preserved. May these same qualities, to the degree in which we as mortals may be capable of them, determine the extent to which we respond to your call. Bestow, we pray, your blessing on us all, our families, our colleagues, the societies which we represent and the work we seek to achieve. Where we may lack the virtues of patience, endurance, fairness, respect for other opinions, open-mindedness, a sense of moral rightness, strengthen these attributes in us so that whatever we do, as this House of Delegates listens, deliberates and acts, may be done to the greater glory of God and for the larger benefit of mankind. Amen."

Report of the Committee on Credentials

Jesse C. Woodall, Jr., M.D., Memphis, chairman of the Committee on Credentials, reported there was a quorum present. The speaker declared the House was in session.

1984 Minutes Approved

The speaker announced that an abstract of the minutes of the last regular session of the House of Delegates was reproduced in the June 1984 issue of the *Journal of the Tennessee Medical Association*. It was moved and seconded that the abstracted minutes of the 1984 session of the House of Delegates be approved as published in the June 1984 issue of the *Journal*. The motion was adopted.

Reference Committees

The speaker announced the members of the reference committees to consider reports, resolutions, amendments, and all matters requiring action by the House of Delegates.

REFERENCE COMMITTEE ON CREDENTIALS

Jesse C. Woodall, Jr., M.D., Memphis, *Chairman* John J. Warner, M.D., Nashville R. Phillip Burns, M.D., Chattanooga

REFERENCE COMMITTEE ON AMENDMENTS

TO THE CONSTITUTION AND BYLAWS John H. Burkhart, M.D., Knoxville, *Chairman*

John L. Farringer, Jr., M.D., Nashville C. Eugene Jabbour, M.D., Memphis

REFERENCE COMMITTEE A

Hays Mitchell, M.D., Cleveland, *Chairman* John B. Turner, M.D., Springfield James C. Fleming, M.D., Memphis

REFERENCE COMMITTEE B

Clarence E. Goulding, Jr., M.D., Johnson City, *Chairman* John B. Thomison, M.D., Nashville Warren A. Alexander, M.D., Covington

REFERENCE COMMITTEE C

Phil E. Orpet, Jr., M.D., Memphis, *Chairman* Lloyd T. Brown, M.D., Gallatin Billy J. Allen, M.D., Chattanooga

REFERENCE COMMITTEE D

Fred A. Killeffer, M.D., Knoxville, *Chairman* James C. Bradshaw, Jr., M.D., Lebanon Charles W. White, M.D., Lexington

COMMITTEE ON OUTSTANDING PHYSICIAN OF THE YEAR AWARD

Allen S. Edmonson, M.D., Memphis, *Chairman* George W. Holcomb, Jr., M.D., Nashville Nat E. Hyder, Jr., M.D., Johnson City

Nominating Committees

As required in the Bylaws, the Board of the Trustees appointed a Nominating Committee with representatives from each of the three grand divisions of the state. The speaker announced the committee members.

EAST TENNESSEE

Duane C. Budd, M.D., Johnson City John E. Strickland, Jr., M.D., Chattanooga George A. Zirkle, Jr., M.D., Knoxville

MIDDLE TENNESSEE

Lloyd T. Brown, M.D., Gallatin James W. Hays, M.D., Nashville Charles E. Jordan, III, M.D., Cookeville

WEST TENNESSEE

James T. Craig, M.D., Jackson Phillip A. Pedigo, M.D., Memphis Robert E. Clendenin, Jr., M.D., Union City

ELECTION BY HOUSE OF DELEGATES APRIL 13, 1985

The preliminary report of the Nominating Committee was presented in the first session of the House of Delegates on Wednesday, April 10, 1985. The final report of the Nominating Committee was presented on Saturday, April 13, 1985 at the closing session of the House. Nominees submitted by the committee were voted upon individually, and in each instance the speaker called for additional nominations from the floor. The following were elected.



Newly elected President-Elect James R. Royal, M.D., Chattanooga

President-Elect—James R. Royal, M.D., Chattanooga Speaker—Malcolm R. Lewis, M.D., Nashville Vice Speaker—F. Hammond Cole, Jr., M.D., Memphis Vice President (East Tennessee)— Jacob T. Bradsher, Mr., M.D., Knoxville Vice President (Middle Tennessee)—
Randall G. Samples, M.D., Cookeville
Vice President (West Tennessee)—
T. James Humphreys, M.D., Jackson

AMA Delegate (Middle Tennessee)— John S. Derryberry, M.D., Shelbyville (January 1, 1986-December 31, 1987)

AMA Alternate Delegate (Middle Tennessee)— Thurman L. Pedigo, M.D., McMinnville (January 1, 1986-December 31, 1987)

AMA Delegate (Middle Tennessee)— John B. Thomison, M.D., Nashville (January 1, 1986-December 31, 1987)

AMA Alternate Delegate (Middle Tennessee)— George W. Holcomb, Jr., M.D., Nashville (filling unexpired term of Robert W. Ikard, M.D., Nashville, April 14, 1985-December 31, 1985; starting new term January 1, 1986-December 31, 1987)

AMA Delegate (West Tennessee)—
A. Roy Tyrer, Jr., M.D., Memphis
(January 1, 1986-December 31, 1987)

AMA Alternate Delegate (West Tennessee)—
Hugh Francis, Jr., M.D., Memphis
(filling unexpired term of Hamel B. Eason, M.D., Memphis, April 14, 1985-December 31, 1985; starting new term January 1, 1986-December 31, 1987)

AMA Delegate (State-at-Large)
Hamel B. Eason, M.D., Memphis
(April 14, 1985-December 31, 1986)
AMA Alternate Delegate (State-at-Large)
Nat F. Hyder, Jr. M.D. Johnson Cit

Nat E. Hyder, Jr., M.D., Johnson City (April 14, 1985-December 31, 1986)

TRUSTEES

Middle Tennessee: Robert W. Ikard, M.D., Nashville (1988)

COUNCILORS

Second District—John E. Kesterson, M.D., Knoxville (1987) Fourth District—Will G. Quarles, Jr., M.D., Livingston (1987) Sixth District—Howard L. Salyer, M.D., Nashville (1987) Eighth District—Montie E. Smith, Jr., M.D., Selmer (1987) Tenth District—Dennis A. Higdon, M.D., Memphis (1987)

THE ABOVE WERE ELECTED BY THE HOUSE OF DELEGATES

AMENDMENTS TO THE CONSTITUTION AND BYLAWS

The speaker reported that there was one amendment to the Constitution lying on the table, two new amendments to the Constitution and two new amendments to the Bylaws to be considered at this session by the House.

The proposed amendments to the Constitution and Bylaws are shown below, with proposed new language shown in **boldface** type and material to be deleted shown in *italics* and enclosed in brackets.

AMENDMENT TO THE CONSTITUTION LYING ON THE TABLE

CONSTITUTIONAL AMENDMENT NO. 1-84

Delegate from Department of Health and Environment

Whereas, The Tennessee Medical Association desires to have official representation from the Tennessee Department of Health and Environment in the House of Delegates; and

Whereas, The present commissioner of Health and Environment is ineligible to be a delegate in that he is not a doctor of medicine. Now, therefore be it

RESOLVED, That Article V.(6) be amended as follows: The commissioner of Health and Environment and the commissioner of Mental Health and Mental Retardation for the state of Tennessee or the chief medical officer of either of these departments if the commissioner is ineligible. . . .

ACTION: ADOPTED

AMENDMENTS TO THE CONSTITUTION

SUBSTITUTE CONSTITUTIONAL AMENDMENT NO. 1-85 Office of Vice-President

RESOLVED, That Article VIII be amended as follows: Sec. 8. Only a member in good standing for the five years immediately preceding the election, who is in attendance at the meeting, shall be eligible for election as president-elect. These standards shall apply to the election of the vice-president who will be eligible to succeed to the presidency.

REFERENCE COMMITTEE ON AMENDMENTS TO THE CONSTITUTION AND BYLAWS—recommended adoption of Substitute Constitutional Amendment No. 1-85.

ACTION: Lying on the table to be acted upon during the House of Delegates session at the 1986 annual meeting.

CONSTITUTIONAL AMENDMENT NO. 2-85 Hospital Medical Staff Section

Whereas, The changing health care environment is placing new emphasis on physician/hospital relationships; and

Whereas, A formal structure, through which relevant issues and concerns can be addressed, seems appropriate; and

Whereas, The American Medical Association established a hospital medical staff section in 1983 and has recommended that each state also establish such a section. Now, therefore be it

RESOLVED, That Articles V and VI be amended as follows:

ARTICLE V

House of Delegates

The House of Delegates shall be the legislative and business body of the Association, and shall be composed of (1) delegates elected by the component societies and the hospital medical staff section; (2)

ARTICLE VI

Sections

Sec. 1. The House of Delegates may provide in the Bylaws for a division of the scientific work of the Association into approprite sections as the need may arise.

Sec. 2. There shall be a hospital medical staff section to provide representation for the interests of hospital medical staffs within the structure of the Association. The medical staff of each JCAH-approved hospital in the state shall be entitled to one representative in the section. All representatives must be members of the Tennessee Medical Association. The hospital medical staff section shall be organized under a governing body and shall elect one delegate to represent it in the House of Delegates of the Association.

REFERENCE COMMITTEE ON AMENDMENTS TO THE CONSTITUTION AND BYLAWS—recommended adoption of Constitutional Amendment No. 2-85

ACTION: Lying on the table to be acted upon during the House of Delegates session at the 1986 annual meeting.

AMENDMENTS TO THE BYLAWS

SUBSTITUTE BYLAW AMENDMENT NO. 1-85 Office of Vice-President

RESOLVED, That Chapter V be amended as follows:

Sec. 1. The president shall be the head of the profession of the state during his term of office and as far as practicable shall visit by invitation each of the various component societies of the state and assist the councilors in building up these societies and in making their work more practical and useful. In the event of his death, resignation, inability to serve, or removal from office, the [president-elect] vice-president from the same grand division shall succeed to the presidency. If that vice-president is unable or unwilling to serve as president, or vacates the office because of death or disability after succession, the Board of Trustees shall fill the vacancy for the remainder of the term. [Such a circumstance shall not prevent the president-elect from then serving as president during the term for which he was originally elected.]

REFERENCE COMMITTEE ON AMENDMENTS TO THE CONSTITUTION AND BYLAWS—recommended adoption of Substitute Bylaw Amendment No. 1-85 in conjunction with adoption of Substitute Constitutional Amendment No. 1-85.

ACTION: Lying on the table to be acted upon in conjunction with Substitute Constitutional Amendment No. 1-85 during the House of Delegates session at the 1986 annual meeting.

BYLAW AMENDMENT NO. 2-85

Dues Delinquency Date

Whereas, Annual dues of the Association are due and payable on or before January 1 of the year for which they are levied, and the billing cycle normally begins in October of the previous year; and

Whereas, Both the American Medical Association and the Tennessee Medical Association have established April 30 as the date that members whose dues have not been paid are considered delinquent; and

Whereas, Dues received by TMA in April must be processed and forwarded to AMA prior to the end of April to preclude delinquency; and

Whereas, About one-third of all members are reported to TMA after April 1 each year, constituting a recurring problem which is further aggravated by demands of the annual meeting. Now, therefore be it

RESOLVED, That Chapter VIII, Section 1 of the Bylaws be amended as follows:

Sec. 1. The annual dues shall be determined by the House of Delegates and shall be levied per capita on the active members and intern and resident members of the charter component societies. The annual dues shall be payable on or before January 1 of the year for which they are levied. Members whose dues are not reported to the Tennessee Medical Association by [April 30] March 31 shall be considered delinquent. . . .

REFERENCE COMMITTEE ON AMENDMENTS TO THE CONSTITUTION AND BYLAWS—recommended adoption of Bylaw Amendment No. 2-85.

ACTION: ADOPTED

RESOLUTIONS

The reference committees have the option of recommending a resolution for adoption or rejection, for adoption as amended or substituted, for referral, or for no action. The resolutions that follow are in the form in which they were **adopted**, **not adopted**, or **referred** by the House of Delegates. Resolutions No. 6-85 and No. 23-85 were withdrawn.

RESOLUTION NO. 1-85 TMA Annual Meeting Format Change

By John O. Williams, M.D. Maury County Medical Society

Whereas, The business portion of the Tennessee Medical Association annual meeting is customarily conducted in two days, but is spread over a four-day period; and

Whereas, The majority of the resolutions have been circulated prior to the meeting for reflection by the delegates; and

Whereas, Efficient use of electronic word processing has eliminated the need for the extra meeting time; and

Whereas, The long meeting imposes both an economic and time constraint for attendance by practicing physicians, especially those in solo private practice. Now, therefore be it

RESOLVED, That the Tennessee Medical Association House of Delegates opening business session begin at 6:00 p.m. on Thursday and that the business of the House of Delegates be concluded Saturday morning; and be it further

RESOLVED, That this resolution, unless reaffirmed or modified prior thereto, shall terminate after the regular annual meeting of the House of Delegates in 1992.

REFERENCE COMMITTEE C—recommended nonadoption of Resolution No. 1-85.

ACTION: REFERRED TO THE TMA BOARD OF TRUST-EES FOR FURTHER STUDY

RESOLUTION NO. 2-85

Mandatory Acceptance of Assignment for Insurance

BY: LUTHUR A. BEAZLEY, JR., M.D., CHAIRMAN TMA BOARD OF TRUSTEES

Whereas, There is growing pressure from all sources of third party payment to require acceptance of assignment as a requirement for payment; and

Whereas, Such requirement is another direct intrusion into the right of a physician to manage his or her private practice. Now therefore be it

RESOLVED, That the Tennessee Medical Association oppose the principle of mandatory acceptance of assignment as a requirement for reimbursement for the care of patients who are recipients of Medicare and/or Medicaid benefits; and be it further

RESOLVED, That the Tennessee Medical Association vigorously oppose any future effort to include mandatory acceptance of assignment as a condition for reimbursement from any government or private source; and be it further

RESOLVED, That this resolution, unless reaffirmed or modified prior thereto, shall terminate after the regular annual meeting of the House of Delegates in 1992.

REFERENCE COMMITTEE A—recommended adoption of Resolution No. 2-85 as amended.

ACTION: ADOPTED AS AMENDED

RESOLUTION NO. 3-85

Concerns Regarding Discrimination in Care for Medicare and Medicaid Patients

BY: DUANE C. BUDD, M.D.
WASHINGTON-UNICOI-JOHNSON COUNTY
MEDICAL ASSOCIATION

Whereas, The federal government, in the Deficit Reduction Act of 1984, singled out the medical profession by mandating an unprecedented freeze in fees for patients covered by Medicare and Medicaid and did so without any apparent effort to control the continually rising costs to the physician providing such care; and

Whereas, The Washington-Unicoi-Johnson County Med-

ical Association believes that this action may result in two levels of medical care to the detriment of the quality of care afforded patients entitled to Medicare and Medicaid benefits;

Whereas, The American Medical Association has entered suit challenging the constitutionality of the freeze in federal court. Now, therefore be it

RESOLVED, That the Tennessee Medical Association support the action taken by the American Medical Association in filing suit in federal court challenging the constitutionality of the freeze in Medicaid and Medicare fees paid to physicians; and be it further

RESOLVED, That the Tennessee Medical Association support the concept of voluntary freeze since this has been effective in the past; and be it further

RESOLVED, That a copy of this resolution be sent to the American Medical Association; and be it further

RESOLVED, That this resolution, unless reaffirmed or modified prior thereto, shall terminate after the regular annual meeting of the House of Delegates in 1992.

REFERENCE COMMITTEE A—recommended adoption of Resolution No. 3-85 as amended.

ACTION: ADOPTED AS AMENDED

RESOLUTION NO. 4-85 Medicare Reimbursement

By: Ray Troop, M.D.
Warren County Medical Society

Whereas, The Deficit Reduction Act of 1984 enacted a freeze of Medicare reimbursement for all physician fees, both customary and prevailing; and

Whereas, This freeze on the customary fees unduly penalizes physicians who have exercised greater restraint in avoiding escalation of their fee profiles; and

Whereas, Physicians should be treated more equitably if any freeze on reimbursement levels were to be on the prevailing fee thereby achieving a similar savings; and

Whereas, Congress usually budgets a specific amount to provide for Medicare reimbursement. Now, therefore be it

RESOLVED, That the Tennessee Medical Association support the concept of achieving any savings that the government may plan based on the prevailing or percentage of the prevailing fee; and be it further

RESOLVED, That the Tennessee Medical Association oppose the concept of freezing the customary fee on either a state or national level; and be it further

RESOLVED, That a copy of this resolution be forwarded to the Health Care Financing Administration, Tennessee Medicaid Department, the governor of the state of Tennessee, the U.S. congressional delegation for the state of Tennessee and the American Medical Association; and be it further

RESOLVED, That this resolution, unless reaffirmed or modified prior thereto, shall terminate after the regular annual meeting of the House of Delegates in 1992.

REFERENCE COMMITTEE—recommended adoption of Resolution No. 4-85 as amended.

ACTION: ADOPTED AS AMENDED

RESOLUTION NO. 5-85

Home Health Service Abuse

BY: DAVID H. TURNER, M.D., CHAIRMAN
COMMITTEE ON GOVERNMENTAL MEDICAL SERVICES

Whereas, The number of home health care agencies in Tennessee has grown to in excess of 390 and is still increasing; and

Whereas, Such growth has created a competitive atmosphere that results in unethical marketing and patient solicitation which places undue pressures upon physicians; and

Whereas, The Medicare and Medicaid programs in Tennessee alone in the last fiscal year have expended in excess of \$65 million on home health services, much of which was of questionable patient benefit; and

Whereas, Much of the abuse and questionable practices by these agencies are as a result of the cost-based reimbursement methodologies upon which Medicare and Medicaid payments are made; and

Whereas, The plans of care presented to physicians for authorization at times provide for a frequency and volume of services which are excessive in relationship to the needs of the patient; and

Whereas, Such inappropriate use of services and negative incentive payment methodologies directly conflict with the concept of cost-effective health care delivery and the need for constraint in the growth of percentage of our Gross National Product dedicated to health care services. Now, therefore be it

RESOLVED, That the House of Delegates of the Tennessee Medical Association call upon the physicians of the state to carefully review all initial and renewal orders for home health services and approve only those that are medically indicated; and be it further

RESOLVED, That the House of Delegates of the Tennessee Medical Association request of the Tennessee congressional delegation to seek passage by Congress of statutory changes to eliminate cost-based reimbursement in the Medicare and Medicaid programs in favor of a more cost-effective methodology such as a payment based upon the value of the service rendered rather than a per visit payment without regard to the service; and be it further

RESOLVED, That physicians in Tennessee report to both payment agencies and regulatory authorities cases of abusive practices by home health agencies; and be it further

RESOLVED, That physicians in Tennessee not authorize the provision of home health services to any patient with whom he or she is not professionally involved in providing care and that any such cases be forwarded to the Board of Medical examiners for investigation; and be it further

RESOLVED, That this resolution, unless reaffirmed or modified prior thereto, shall terminate immediately following the regular annual meeting of the House of Delegates in 1992.

REFERENCE COMMITTEE A—recommended adoption of Resolution No. 5-85.

ACTION: ADOPTED

RESOLUTION NO. 7-85 Public Image of Physicians

BY: DEE J. CANALE, M.D., PRESIDENT MEMPHIS-SHELBY COUNTY MEDICAL SOCIETY

Whereas, Most recent AMA survey data (i.e., Physician & Public Attitudes on Health Care Issues, AMA, 1984) again indicates that the public image of personal physicians is sharply better than the image of the general physician population; and

Whereas, This "image gap" has increased during the past two years, particularly in areas concerning fees and incomes, physician-patient interaction, access to care among the poor and elderly, and public faith in physicians; and

Whereas, These negative public images are those least related to personal experiences and, therefore, must be related to the media and other sources of information; and

Whereas, Effective public relations efforts may reduce the gap between the public's personal experiences and their general image of physicians; and

Whereas, The American Medical Association will conduct a major public relations campaign to increase the nation's awareness of physicians as advocates of their patients. Now, therefore be it

RESOLVED, That the House of Delegates instruct the Board of Trustees of the Tennessee Medical Association to establish an ad hoc committee or assign this task to an appropriate existing committee for the purpose of conducting a statewide patient education program to focus on the human aspects of medical care, the physician-patient relationship and the physician's role as the patients' advocate; and be it further

RESOLVED, That the program be conducted in cooperation with the American Medical Association and those component societies within this state which are planning similar efforts; and be it further

RESOLVED, That the Chattanooga-Hamilton County Medical Society be commended on their excellent efforts in this direction and that members of their committee be included in the Tennessee Medical Association's efforts; and be it further

RESOLVED, That this resolution, unless reaffirmed or modified prior thereto, shall terminate after the regular annual meeting of the House of Delegates in 1992.

REFERENCE COMMITTEE D—recommended adoption of Resolution No. 7-85 as amended.

ACTION: ADOPTED AS AMENDED

RESOLUTION NO. 8-85 DPT Immunization of Children

BY: PHILLIP A. PEDIGO, M.D. MEMPHIS-SHELBY COUNTY MEDICAL SOCIETY

Whereas, DPT immunization has been effective and safe preventive medicine for children with extremely rare incidences of morbidity and mortality; and

Whereas, Two of the three U.S. commercial manufacturers of the DPT vaccine have stopped distribution of their product because of multiple and excessive lawsuits; and

Whereas, Federal officials report the supply of DPT vaccine is expected to be very short in the coming year, and the CDC has recommended delay in DPT boosters. Now, therefore be it

RESOLVED, That the Tennessee Medical Association encourage the Tennessee General Assembly to consider means of extending liability protection to those who manufacture, provide, and administer DPT vaccine to the children of the state of Tennessee; and be it further

RESOLVED, That this resolution, unless reaffirmed or modified prior thereto, shall terminate after the regular annual meeting of the House of Delegates in 1992.

REFERENCE COMMITTEE B—recommended referral of Resolution No. 8-85 to TMA Board of Trustees.

ACTION: REFERRED TO TMA BOARD OF TRUSTEES

RESOLUTION NO. 9-85

Hepatitis Vaccination of Medical Students

BY: PHILLIP A. PEDIGO, M.D.
MEMPHIS-SHELBY COUNTY MEDICAL SOCIETY

Whereas, Hepatitis B vaccine has been shown to be effective; and

Whereas, It would be beneficial to immunize medical students. Now, therefore be it

RESOLVED, That the Tennessee Medical Association urge medical schools to make available and encourage Hepatitis B immunization for medical students; and be it further

RESOLVED, That this resolution, unless reaffirmed or modified prior thereto, shall terminate after the regular annual meeting of the House of Delegates in 1992.

REFERENCE COMMITTEE B—recommended adoption of Resolution No. 9-85 as amended.

ACTION: ADOPTED AS AMENDED

RESOLUTION NO. 10-85 Statewide Poison Control

BY: ROBERT L. SUMMITT, M.D. MEMPHIS-SHELBY COUNTY MEDICAL SOCIETY

Whereas, There are an estimated 60,000 people poisoned or exposed to poison in Tennessee annually; and

Whereas, There is no coordinated system of poison control centers in Tennessee despite a state statute passed in 1974 that enables the development of a statewide poison control system; and

Whereas, Studies have shown that regional poison control centers provide a higher quality of care than small metropolitan poison control centers; and

Whereas, Statewide poison control centers have been shown to be cost-effective by optimizing the use of health care facilities by the public; and

Whereas, Other states have established and funded statewide poison control centers. Now, therefore be it

RESOLVED, That the Tennessee Medical Association

endorse the development of a statewide poison control system that includes statewide poison information services, a data collection system, staffing with health professionals, and a public education program; and be it further

RESOLVED, That the Tennessee Medical Association request the commissioner of Health and Environment to establish and fund the previously legislated statewide poison control system for Tennessee; and be it further

RESOLVED, That a copy of this resolution be forwarded to the governor, the commissioner of Health and Environment, and the Public Health Council of the state of Tennessee; and be it further

RESOLVED, That this resolution, unless reaffirmed or modified prior thereto, shall terminate after the regular annual meeting of the House of Delegates in 1992.

REFERENCE COMMITTEE B—recommend adoption of Resolution No. 10-85 as amended.

ACTION: ADOPTED AS AMENDED

RESOLUTION NO. 11-85 Ban of "Promotional Drinking"

BY: PHILLIP A. PEDIGO, M.D. MEMPHIS-SHELBY COUNTY MEDICAL SOCIETY

Whereas, Other states have banned "promotional drinking," such as "happy hours," in bars and restaurants which encourage rapid drinking; and

Whereas, Drinkers rapidly indulging in "promotional drinking" will endanger themselves and others; and

Whereas, A high percentage of automobile accidents are alcohol related; and

Whereas, Bars and restaurants would welcome the ban of "promotional drinking" because they would not have to offer cut-rate alcoholic beverages to compete. Now, therefore be it

RESOLVED, That the Tennessee Medical Association urge the Tennessee Restaurant Association and such trade associations to urge their member establishments to not engage in "promotional drinking"; and be it further

RESOLVED, That this resolution, unless reaffirmed or modified prior thereto, shall terminate after the regular meeting of the House of Delegates in 1992.

REFERENCE COMMITTEE A—recommended adoption of Resolution No. 11-85.

ACTION: ADOPTED AS AMENDED

SUBSTITUTE RESOLUTION NO. 12-85 Boxing

BY: HAMEL B. EASON, M.D. MEMPHIS-SHELBY COUNTY MEDICAL SOCIETY

RESOLVED, That the Tennessee Medical Association (1) educate the Tennessee public about the dangerous effects of boxing on the health of participants, (2) encourage the discontinuance as a sport of both amateur and professional box-

ing, and (3) communicate its feeling in this area to appropriate regulatory bodies in Tennessee; and be it further

RESOLVED, That this resolution, unless reaffirmed or modified prior thereto, shall terminate after the regular annual meeting of the House of Delegates in 1992.

REFERENCE COMMITTEE D—offered Substitute Resolution No. 12-85 to replace original Resolutions No. 12-85 and No. 26-85; recommended adoption of Substitute Resolution No. 12-85 as amended.

ACTION: ADOPTED AS AMENDED

RESOLUTION NO. 13-85

Opposition to Federally Funded Health Planning

BY: JAMES T. GALYON, M.D.
MEMPHIS-SHELBY COUNTY MEDICAL SOCIETY

Whereas, Health planning as required by Public Laws 93-641 and 96-79 has failed to reduce the cost of health care; and

Whereas, The same laws have reduced the effectiveness of free market competitive forces to restrain health care costs; and

Whereas, Most of the states are deregulating health care at this time; and

Whereas, Health planning should be a voluntary, locally based program designed to address local needs with local resources. Now, therefore be it

RESOLVED, That the Tennessee Medical Association encourage the Tennessee General Assembly and the governor of Tennessee to allow TCA 68-11-106 (Certificate of Need and Health Facilities) to expire in June, 1985 and wind down one year later; and be it further

RESOLVED, That the Tennessee Medical Association encourage Tennessee's congressional delegation to repeal Public Laws 93-641 and 96-79 and to cease to fund these laws until repealed; and be it further

RESOLVED, That the medical profession through the Tennessee Medical Association and its component societies support voluntary, local health planning by the involved health care professionals; and be it further

RESOLVED, That this resolution, unless reaffirmed or modified prior thereto, shall terminate after the regular annual meeting of the House of Delegates in 1988.

REFERENCE COMMITTEE A—recommended adoption of Resolution No. 13-85.

ACTION: ADOPTED

RESOLUTION NO. 14-85

Reimbursement for Diagnostic Studies Identified as Surgical Procedures

BY: A. ROY TYRER, JR., M.D.
MEMPHIS-SHELBY COUNTY MEDICAL SOCIETY

Whereas, Certain diagnostic procedures including, but not limited to, myelograms, angiograms, arthrograms, and dis-

JUNE, 1985 349

cograms are identified as surgical procedures and are included on most surgical fee schedules; and

Whereas, These procedures are strictly diagnostic studies and not therapeutic surgical procedures; and

Whereas, Medicare and other third party payors are now asking for a "global" fee for surgical procedures to include a prescribed period of postoperative care in contrast to previously desired itemization of charges for services rendered. Now, therefore be it

RESOLVED, That the Tennessee Medical Association seek to have recognized as strictly diagnostic nontherapeutic surgical procedures which are not applicable to the "global" fee concept such as myelograms, angiograms, arthrograms and discograms, but not limited to these; and be it further

RESOLVED, That the Tennessee Medical Association seek a policy for reimbursement for such services separately on a fee for service basis, in addition to reimbursement for medical and surgical hospital care on either a "global," diagnosis related, or other basis; and be it further

RESOLVED, That a similar resolution be introduced by the Tennessee Medical Association to the House of Delegates of the American Medical Association; and be it further

RESOLVED, That third party payors be notified; and be it further

RESOLVED, That this resolution, unless reaffirmed or modified prior thereto, shall terminate after the regular annual meeting of the House of Delegates in 1992.

REFERENCE COMMITTEE C—recommended adoption of Resolution No. 14-85 as amended.

ACTION: ADOPTED AS AMENDED

RESOLUTION NO. 15-85

IRS Automobile Record Keeping Requirements

BY: A. ROY TYRER, JR., M.D.
MEMPHIS-SHELBY COUNTY MEDICAL SOCIETY

Whereas, The constant and immediate availability of an automobile is essential and imperative in the clinical practice of medicine; and

Whereas, The Internal Revenue Service is presently requiring "contemporaneous" automobile record keeping which is time consuming, impractical, and inefficient. Now, therefore be it

RESOLVED, That the Tennessee Medical Association firmly oppose the present "contemporaneous" automobile record keeping required of physicians and others by the Internal Revenue Service; and be it further

RESOLVED, That Tennessee's congressional delegation be informed of this resolution and be requested to develop and support legislation in opposition to these regulations; and be it further

RESOLVED, That this resolution, unless reaffirmed or modified prior thereto, shall terminate after the regular annual meeting of the House of Delegates in 1992.

REFERENCE COMMITTEE A—recommended nonadoption of Resolution No. 15-85.

ACTION: ADOPTED

RESOLUTION NO. 16-85

The Living Will

BY: JAMES T. GALYON, M.D.
MEMPHIS-SHELBY COUNTY MEDICAL SOCIETY

Whereas, There are four different legislative proposals before the Tennessee General Assembly plus a recommendation by the Governor's Select Committee on Health Care Cost Containment, all calling for a "Living Will." Now, therefore be it

RESOLVED, That the Tennessee Medical Association reaffirm Resolution No. 16-84, adopted by this House, opposing any type of Natural Death Act or Living Will legislation that would mandate the physician to discontinue life supports without regard to his medical opinion; and be it further

RESOLVED, That this resolution, unless reaffirmed or modified prior thereto, shall terminate after the regular annual meeting of the House of Delegates in 1992.

REFERENCE COMMITTEE A—recommended adoption of Resolution No. 16-85.

ACTION: ADOPTED

SUBSTITUTE RESOLUTION NO. 17-85 Tax on Professional Medical Services

BY: A. ROY TYRER, JR., M.D.
MEMPHIS-SHELBY COUNTY MEDICAL SOCIETY

RESOLVED, That the Tennessee Medical Association go on record in opposition to any tax that singles out physicians, their practices and their patients, because of the adverse impact upon quality care at the most affordable price, and be it further

RESOLVED, That this resolution, unless reaffirmed or modified prior thereto, shall terminate after the regular annual meeting of the House of Delegates in 1992.

REFERENCE COMMITTEE A—offered Substitute Resolution No. 17-85 in place of original Resolution No. 17-85; recommended adoption of Substitute Resolution No. 17-85.

ACTION: ADOPTED AS AMENDED

RESOLUTION NO. 18-85 Government's Response to Resolutions

BY: C. EUGENE JABBOUR, M.D. MEMPHIS-SHELBY COUNTY MEDICAL SOCIETY

Whereas, On a yearly basis the Tennessee Medical Association forwards copies of resolutions to the governor of the state of Tennessee and to the appropriate members of federal and state legislative bodies; and

Whereas, There has been in the past little response in writing to these resolutions from the above persons. Now, therefore be it

RESOLVED, That any resolutions sent to the governor and to state and federal legislators contain a request that they respond in writing to the resolutions; and be it further

RESOLVED, That the chairman of the Board of Trust-

ees in his annual report inform the members of the Tennessee Medical Association House of Delegates of the number and content of these responses; and be it further

RESOLVED, That this resolution, unless reaffirmed or modified prior thereto, shall terminate after the regular annual meeting of the House of Delegates in 1992.

REFERENCE COMMITTEE A—recommended adoption of Resolution No. 18-85.

ACTION: ADOPTED

RESOLUTION NO. 19-85 AMA Criteria for Dues Exemption

BY: EVELYN B. OGLE, M.D. MEMPHIS-SHELBY COUNTY MEDICAL SOCIETY

Whereas, Effective in 1986 the American Medical Association will change the age of eligibility for dues exempt members from 65 to 70 years (except in cases of financial hardship or disability); and

Whereas, Dues exempt members 70 years of age or older who work 20 hours or less per week will still be required to pay one-half of the regular dues rate and those who work more than 20 hours per week will now be required to pay full regular dues; and

Whereas, This is NOT dues exemption but dues reduction for a comparatively small number of physicians; and

Whereas, Veteran (or) emeritus members who have supported the American Medical Association by their membership and participation for 40 years or more will no longer be recognized. Now, therefore be it

RESOLVED, That the Tennessee Medical Association oppose implementation of the new American Medical Association criteria for dues exemption and urge the American Medical Association House of Delegates to reverse its previous action in this regard; and be it further

RESOLVED, That the Tennessee Medical Association and component societies maintain current criteria which provide full dues exemption for members 65-69 years of age who work 20 hours a week or less and for all members 70 years of age or older; and be it further

RESOLVED, That this resolution, unless reaffirmed or modified prior thereto, shall terminate after the regular annual meeting of the House of Delegates in 1992.

REFERENCE COMMITTEE C—recommended adoption of Resolution No. 19-85.

ACTION: ADOPTED

RESOLUTION NO. 20-85 Operative Request

BY: PHILLIP A. PEDIGO, M.D. MEMPHIS-SHELBY COUNTY MEDICAL SOCIETY

Whereas, There has been a fundamental problem with operative permits; and

Whereas, The operative permit has been provided by lawyers and administrators; and

Whereas, The permit follows in a sense the "devices and desires" of the legal establishment; and

Whereas, By law, signing a permit is legally done because performing any procedure without informed consent falls under the law of battery; and

Whereas, The very act sets up an adversarial relationship which is detrimental to both patient and physician; and

Whereas, This continues to do a disservice to patient, medical students, residents and nurses every time a patient is asked to sign an operative permit; and

Whereas, A request for surgery rather than a permit for surgery sets up a more harmonious and appropriate goal for a doctor-patient relationship. Now, therefore be it

RESOLVED, That the Tennessee Medical Association recomend to the Tennessee Hospital Association, Hospital Alliance of Tennessee, Inc. and other hospital organizations to urge their member hospitals to use a form entitled "request for the administration of anesthesia and the performance of operations and other procedures," rather than a "permit" for surgery; and be it further

RESOLVED, That this resolution, unless reaffirmed or modified prior thereto, shall terminate after the regular annual meeting of the House of Delegates in 1992.

REFERENCE COMMITTEE C—recommended adoption of Resolution No. 20-85 as amended.

ACTION: ADOPTED AS AMENDED

RESOLUTION NO. 21-85 Office of Vice-President

BY: C. EUGENE JABBOUR, M.D.

Whereas, The present Constitution states that the president-elect shall succeed to the presidency in the event of the president's being unable to serve for any reason and shall fill out his unexpired term plus his own term as president; and

Whereas, That would place an undue hardship on that person, particularly should he succeed to the presidency early during the former president's tenure; and

Whereas, If such circumstances should occur the grand division in which the president who could not serve resided would be disenfranchised by one vote on the Board of Trustees for two years. Now, therefore be it

RESOLVED, That the Constitution and Bylaws be changed to establish an office of one vice-president (from the same grand division of the state as the president) elected to serve a term of one year and succeed to the presidency in the event the president became unable to serve for any reason; and be it further

RESOLVED, That the person so elected serve on the Board of Trustees and vote in case of a tie; and be it further

RESOLVED, That in the event the vice-president is unable to assume the presidency, the Board of Trustees appoint a member to serve as president from the same grand division in which the president who was unable to serve resided; and be it further

RESOLVED, That this resolution, unless reaffirmed or modified prior thereto, shall terminate after the regular annual meeting of the House of Delegates in 1992.

REFERENCE COMMITTEE ON AMENDMENTS TO THE CONSTITUTION AND BYLAWS—recommended adoption of Substitute Constitutional Amendment No. 1-85 and Substitute Bylaw Amendment No. 1-85 in lieu of this resolution.

RESOLUTION NO. 22-85 Ethical Standards

BY: JOHN H. BURKHART, M.D.

Whereas, Many of the traditions and unique values which set medicine apart as a serving profession are being threatened by proposals and some already promulgated newer marketing and promotional techniques, pushed on the public and the profession in the name of competition and cost effectiveness; and

Whereas, Medicine, since the crystallization of its principles and standards by the Hippocratic Oath composed some 2,500 years ago, which it still endorses, has held that the patient's welfare, care, and treatment supersede all other matters; and

Whereas, To guarantee these precepts, medicine has voluntarily subscribed to high standards of education, practice, behavior, and improvement of its body of knowledge and skills as set forth in a documented Principles of Medical Ethics, which, though modified from time, are never less than the laws of the land and in fact generally exceed them. Now, therefore be it

RESOLVED, That this House of Delegates of the Tennessee Medical Association, confident that it speaks for the membership, hereby reaffirm its determination to continue to adhere to those high concepts of medical care which put concern for the patient before personal gain and further to refrain from any activity which lowers the ethical standards so essential to the preservation of a noble profession; and be it further

RESOLVED, That the Tennessee Medical Association be on record deploring any health care arrangement or delivery system which interferes with that indispensable element of satisfactory health care, the inviolability of the rights of both patient and physician in their relationship one with the other; and be it further

RESOLVED, That this resolution, unless reaffirmed or modified prior thereto, shall terminate after the regular annual meeting of the House of Delegates in 1992.

REFERENCE COMMITTEE C—recommended adoption of Resolution No. 22-85.

ACTION: ADOPTED

RESOLUTION NO. 24-85 Proliferation of Abbreviations

BY: J. L. FARRINGER, JR., M.D.

Whereas, The Tennessee Medical Association has appointed a committee to study the uncontrolled proliferation of abbreviations and acronyms; and

Whereas, After a year of study said committee has determined that there are thousands of such acronyms, abbreviations and "call letters" in use in the hospitals in our state, at least one hospital having an approved list of over 1,100; and

Whereas, Students entering medical schools enter uncontaminated with an addiction for these acronyms. It would seem that such are learned from teachers and residents; and

Whereas, It would appear that the place to stem the proliferation of these acronyms and abbreviations and hopefully turn back this tide is in the medical schools and residency programs; and

Whereas, Misinterpretation of symbols by nursing service personnel and others could lead to medicolegal problems. Now, therefore be it

RESOLVED, That the House of Delegates of the Tennessee Medical Association urge the deans of the medical schools within the state and the directors of residency programs to instruct the professors and directors to require that students and trainees spell out words in histories and physical examinations and especially on order sheets; and be it further

RESOLVED, That a copy of this resolution be sent by certified mail to the dean of each medical school in the state and to the director of each residency training program in Tennessee; and be it further

RESOLVED, That this resolution, unless reaffirmed or modified prior thereto, shall terminate after the regular annual meeting of the House of Delegates in 1992.

REFERENCE COMMITTEE D—recommended adoption of Resolution No. 24-85.

ACTION: ADOPTED

RESOLUTION NO. 25-85 Control of Over-the-Counter Diet Pills

BY: PHILLIP A. PEDIGO, M.D.

Whereas, There are drugs sold over-the-counter claiming to be appetite suppressants that do not have proven safety or effectiveness records; and

Whereas, These drugs without adequate printed warnings are taken by inadequately informed people. Now, therefore be it

RESOLVED, That the Tennessee Medical Association encourage the Food and Drug Administration to ban overthe-counter diet pills; and be it further

RESOLVED, That the Tennessee congressional delegation be asked to assist the Food and Drug Administration in solution of this problem; and be it further

RESOLVED, That this resolution, unless reaffirmed or modified prior thereto, shall terminate after the regular annual meeting of the House of Delegates in 1992.

REFERENCE COMMITTEE A—recommended adoption of Resolution No. 25-85 as amended.

ACTION: ADOPTED AS AMENDED

RESOLUTION NO. 26-85 Regulation of Boxing

BY: PHILLIP A. PEDIGO, M.D.

Whereas, The American Medical Association ban boxing appears to involve emotionalism, and physicians as a rule pride themselves on their ability to view problems objectively; and

Whereas, Most physicians have not been directly involved in boxing; and

Whereas, There has been no reason to ban boxing as opposed to other sports which cause more deaths or injuries (i.e., judo, football, baseball, field and track events, race car driving, mountain climbing and scuba diving); and

Whereas, A ban on boxing is impractical and will become counterproductive. Now, therefore be it

RESOLVED, That the Tennessee Medical Association encourage regulation of boxing rather than ban the sport; and be it further

RESOLVED, That the Tennessee Medical Association educate the public as to the dangers involved in sports which cause more deaths or injuries than boxing (i.e., judo, foot-

ball, baseball, field and track events, race car driving, mountain climbing and scuba diving); and be it further

RESOLVED, That this resolution, unless reaffirmed or modified prior thereto, shall terminate after the regular annual meeting of the House of Delegates in 1992.

REFERENCE COMMITTEE D—offered Substitute Resolution No. 12-85 to replace original Resolutions No. 12-85 and No. 26-85; recommended adoption of Substitute Resolution No. 12-85 as amended.

ACTION: NOT ADOPTED (Was replaced with Substitute Resolution No. 12-85, which was adopted as amended.)

COMMUNITY SERVICE AWARDS

Each year, the Tennessee Medical Association is privileged to present its Community Service Awards to citizens who have made significant contributions to their community and state in the very broad field of health care. This year, TMA recognized the contributions of three distinguished Tennesseans.

Mr. Bill Williams, a lay minister of the Christian Church, Disciples of Christ, is news anchorman at WBIR-TV, Channel 10, Knoxville. Previously, he was news director/anchor at KYTV in Springfield, Missouri. He joined the Knoxville station in 1977.

"Monday's Child" on Channel 10 was the pilot project for Tennessee in televising special needs of children. Through the cooperation of the Department of Human Services and Knoxville's Council on Adoptable Children, Mr. Williams featured the first "Monday's Child" on May 5, 1980. He has written and produced more than 250 profiles of adoptable youngsters since that original telecast. Largely through his efforts, several youngsters have been placed in permanent homes.

Mr. Williams has won several awards in his profession, including the Silver Gavel Award of the American Bar Association and the Scripps Howard Award for Public Affairs Broadcasting.

Mr. Williams is a most worthy recipient of the Community Service Award and the Tennessee Medical Association is proud to present him with this honor.

Mr. John Evans Seward, a native of Newport News, Virginia, entered Duke University in 1940 but World War II interrupted his studies and he served in the U.S. Army's 103rd Infantry. He was captured in 1945. He and fellow prisoners were forced by the Nazis to march to Frankfurt-am-Main from Strasbourg, France, that winter and many soldiers died en route. He carried a weaker fellow prisoner on his back on the march and saved his comrade's life.

After the war was over, Mr. Seward was discharged in 1946 and returned to Duke University, where he excelled in his scholastic studies and was a nationally acclaimed basketball player. He received All American honors in 1947.

After Duke graduation, he and his wife, the former

Matilda Jane Paty, moved to Elizabethton and he began work for The Paty Company. In 1961, he was named company president. He maintained that position until 1978 when the five Paty companies merged into a single corporation and he became senior vice president with his son, John, Jr., assuming the president's office.

Mr. Seward held a leadership role in PROJECT: TO HOPE, a community effort to raise \$3 million to finance the building of a new cancer treatment center in Johnson City.

He has served as president of the Johnson City Home Builders' Association and president of the National Association of Home Builders. He was vice chairman of the Johnson City Park and Recreation Commission and was chairman of the Johnson City Preaching Mission in 1974. That same year, he was elected Kiwanian of the Year.

Mr. Seward richly deserves the TMA Community Service Award and TMA is very pleased to bestow it on him.

Mr. Fred P. Gattas, Sr., a native of Greenville, Mississippi, is chairman of the board of governors of St. Jude Children's Research Hospital of Memphis, and he has been instrumental in the development and funding of the \$4 million St. Jude Information Center.

As chairman of ALSAC, Inc., St. Jude's fund-raising organization, he gave many months of work in 1974-75 to implement ALSAC's office move from Indiana to Tennessee. He also has served as chairman of fundraising for St. Peter Home for Children.

He is chairman of the board of directors of the company which bears his name. In 1982, he received the Human Relations Award of the National Conference of Christians and Jews. He received the 1959 Danny Thomas National Distinguished Service Award.

Eight years ago, he received the Silver Quill Award as Outstanding Communicator from the Public Relations Society of America, Memphis Chapter.

He has received many other civic and professional honors throughout his distinguished career.

Mr. Gattas is an outstanding asset to his city and state, and the Tennessee Medical Association is indeed pleased and honored to give him the TMA Community Service Award for 1985.

RESOLUTION NO. 27-85

Terms of Office of Delegates to the AMA

By: James W. Hays, M.D., Chairman TMA Nominating Committee

Whereas, Elected officials of the Tennessee Medical Association have limited terms of office; and

Whereas, Delegates to the American Medical Association from the Tennessee Medical Association have not, in the past, had limited terms of office. Now, therefore be it

RESOLVED, That no delegate to the American Medical Association from the Tennessee Medical Association shall

serve more than six consecutive terms, this restriction being exempted as long as a delegate is an active member of a Council; and be it further

RESOLVED, That the Tennessee Medical Association Bylaws be amended to reflect this change; and be it further

RESOLVED, That this resolution, unless reaffirmed or modified prior thereto, shall terminate after the regular annual meeting of the House of Delegates in 1992.

REFERENCE COMMITTEE C—recommended nonadoption of Resolution No. 27-85.

ACTION: NOT ADOPTED

TENNESSEE'S OUTSTANDING PHYSICIAN OF THE YEAR

Virgil H. Crowder, Sr., M.D.

Virgil H. Crowder, Sr., M.D., Lawrenceburg, was chosen 1985 Outstanding Physician of the Year by the 202-member Tennessee Medical Association House of Delegates at the 150th Annual Meeting of TMA in Memphis. The House bestowed its highest honor on the 81-year-old physician at its opening session, and the speaker of the House of Delegates presented the award to Dr. Crowder at the second and concluding House session. He was nominated for the award by the Lawrence County Medical Society.

Dr. Crowder, a native of Appleton, Tennessee, is the oldest of nine children. His father was a rural mail carrier and Dr. Crowder assumed responsibility of the family farm at an early age. Since the nearest high school was 20 miles away, he became a boarder at a local boarding house in order to graduate from high school. He graduated as salutatorian of his class and went on to the University of Tennessee in Knoxville. He received his medical degree from the University of Tennessee College of Medicine in Memphis where he was a member of Phi Rho Sigma medical fraternity.

His internship at City Hospital was cut short by his marriage to the former Maggie White of Giles County. At that time, all interns had to be single.

Dr. Crowder established solo practice in Lawrenceburg in 1929 and was joined in practice in 1930 by John H. Tilley, M.D., who remained his associate until 1940. By that time, his younger brother, W.O. Crowder, M.D., completed his surgical training and joined him in his practice for several years. Dr. Crowder's son, Virgil H. Crowder, Jr., M.D., completed his surgical training and joined his father in practice in 1968.

Dr. Crowder's initial office was over a department store on the Public Square, then over a drug store, where it burned in 1959. At that time, he moved his office to Pulaski Street into his remodeled former home where it has remained. His initial practice consisted of office visits and, for the most part, home visits.

For many years, he has been a member of the American Medical Association, Tennessee Medical Association and the Lawrence County Medical Society, serving the latter as president for several terms. He served many years in the TMA House of Delegates.

In the 1930s when the Civilian Conservation Corps established a training camp in the forests and on the bluffs west of Lawrenceburg, Dr. Crowder was the camp physician. At the beginning of World War II, the camp was closed only to be reopened in 1943 as a German Prisoner-of-War camp, consisting mostly of elite members of Rommel's African army. Dr. Crowder served as physician for the German prisoners.

When he first came to Lawrenceburg, the only local hospital was owned by the Seventh Day Adventist Church and Dr. Crowder was on the staff. Lawrence County built a new county hospital in 1950 and Dr. Crowder was the only physician ever to serve on the Lawrence County Hospital Board. Crockett General Hospital was opened in 1974 and the old county hospital was sold to the Lawrenceburg Lions Club for a nursing home. Dr. Crowder served as chairman of the hospital board of Crockett General for four years and is today an active staff member. He has served as chairman of the Lawrence County Planning Commission since 1967 and on the board of directors of Lawrenceburg Federal Savings and Loan Association since 1974.

In his 55 years of practice, he has delivered over 7,000 babies—most of them at home. All of these babies were delivered prior to 1972 when he ceased obstetric practice. He kept office hours seven days a week until 1968 and still maintained office hours six days a week until 1979. He currently has office hours five days a week, makes daily hospital rounds and monthly rounds at all three nursing homes in the county.

In January 1984, the mayor of Lawrenceburg presented Dr. Crowder a framed Certificate of Achievement from the City of Lawrenceburg. In part, the certificate says "... for your untiring devotion to the improvement of lives of the people of Lawrenceburg and Lawrence County. Your influence has been felt through your professional and personal concern. You have dedicated your life to the service of mankind, generously giving your time to serve in civic and community organizations. Your lifelong work has exemplified the dignity of man. We are fortunate to have a man of your medical ability, benevolent heart and sincere kindness living and working in our community. We truly appreciate you."

RESOLUTION NO. 28-85

Student Loan

BY: PHILLIP A. PEDIGO, M.D.

Whereas, There are physicians practicing in Tennessee and other states; and

Whereas, These physicians have had student loans; and Whereas, These physicians are now in practice and are able to pay the loans back; and

Whereas, There are some physicians who have not, by their own initiative, paid these loans. Now, therefore be it

RESOLVED, That all physicians who have defaulted on loans be disqualified from local, Tennessee Medical Association and American Medical Association memberships until a method in which their loan is being repaid has been reinstituted and this will be determined in the proper manner by the TMA-SEF Loan Committee; and be it further

RESOLVED, That this resolution, unless reaffirmed or modified prior thereto, shall terminate after the regular annual meeting of the House of Delegates in 1992.

REFERENCE COMMITTEE C—recommended nonadoption of Resolution No. 28-85.

ACTION: NOT ADOPTED

COMMENDATION RESOLUTION

Carl E. Adams, M.D.

By: James A. Greene, M.D., Chairman TMA Long-Term Health Care Committee

Whereas, Dr. Carl E. Adams has dedicated 50 years of his life to the study and practice of medicine; and

Whereas, Dr. Adams, concerned about the special needs of older people, especially those in need of long-term health care, was instrumental in forming a committee of the Tennessee Medical Association to address these special needs; and

Whereas, Dr. Adams provided organizational leadership and served as chairman of the Long-Term Health Care Committee from it inception in September 1976 until October 1984. Now, therefore be it

RESOLVED, That the House of Delegates commend and extends it sincere appreciation to Dr. Carl Adams for the many hours of work he expended on behalf of the Tennessee Medical Association and his leadership in helping his fellow physicians in meeting these needs through improved services, education and research; and be it further

RESOLVED, That a copy of this resolution, appropriately engrossed, be presented to Dr. Adams as an expression of gratitude from the House of Delegates for his untiring efforts and contributions to medicine and for the excellent manner in which he worked individually and collectively with Tennessee physicians to improve long-term health care.

COMMENDATION RESOLUTION

Flora M. Richardson

BY: WILLIAM E. ROWE, M.D., PRESIDENT CHATTANOOGA-HAMILTON COUNTY MEDICAL SOCIETY

Whereas, Flora M. "Flo" Richardson has served as executive director of the Chattanooga-Hamilton County Medical Society for 27 years; and

Whereas, She has distinguished herself as a conscientious and effective medical society executive and community leader; and

Whereas, Her many contributions to and efforts in behalf of medicine in Chattanooga and Tennessee have earned the respect of physicians and colleagues; and

Whereas, She retired as executive director of the Chattanooga-Hamilton County Medical Society on April 1, 1985. Now, therefore be it

RESOLVED, That the House of Delegates of the Tennessee Medical Association recognize and applaud the distinguished career of Flora M. "Flo" Richardson as executive director of the Chattanooga-Hamilton County Medical Society; and be it further

RESOLVED, That the Tennessee Medical Association present to Mrs. Richardson an appropriately framed copy of this resolution as a permanent reminder of our appreciation and respect.

COMMENDATION RESOLUTION

John B. Thomison, M.D.

BY: RURAL CAUCUS

Whereas, The Tennessee Medical Association is fortunate to have an exceptional editor in John B. Thomison, M.D.; and

Whereas, It is the opinion of this House of Delegates that all physicians should be members of their county medical societies, the Tennessee Medical Association and the American Medical Association; and

Whereas, The recent superbly written editorial on membership, "To Belong or Not To Belong," summarized concisely the reasons to be involved in organized medicine. Now, therefore be it

RESOLVED, That this House of Delegates commend Dr. John B. Thomison for his excellent work on the TMA Journal; and be it further

RESOLVED, That a copy of this editorial be mailed to all Tennessee physicians who are nonmembers of the Tennessee Medical Association or American Medical Association.

JUNE, 1985 355

DISTINGUISHED SERVICE AWARDS

Twenty-one years ago, the Tennessee Medical Association established its Distinguished Service Awards "in recognition of outstanding service or contribution to the advancement of medical science or to this Association or the public welfare whether of a civic or scientific nature." At the 150th annual meeting of TMA in Memphis on April 10-13, the chairman of the TMA Board of Trustees announced that there were three recipients of this award in 1985.

Charles Edward Allen, M.D., a native of Erwin, received his medical degree from the University of Tennessee College of Medicine in 1954. Since 1962, he has practiced internal medicine in Johnson City, and he is certified by the American Board of Internal Medicine.

Currently, he is a TMA alternate delegate to the American Medical Association. He has served on many medical staff committees. He was the first physician in Johnson City to perform percutaneous angiography. He performed the first temporary cardiac pacemaker insertion in Johnson City, using a homemade temporary pacing electrode. He took part in the design and development of the Johnson City Memorial Hospital Coronary Care Unit.

Dr. Allen has served on the board of directors of the Johnson City Area Chamber of Commerce. He has been a deacon of First Christian Church and has served as an elder in that congregation since 1967. He is chairman of the board of trustees of Milligan College and a member of the board of directors of the East Tennessee State University Foundation.

He served two years as vice speaker of the TMA House of Delegates and four years as its speaker. He has been a member of the board of directors of the TMA Student Education Fund for eight years and served four years on the State Board of Medical Examiners.

In 1966, he was named to head a committee to promote the development of medical education in Upper East Tennessee. The outgrowth of the committee's work was the formation of an area-wide committee to develop a medical school. Quillen-Dishner College of Medicine at East Tennessee State University in Johnson City was approved by the Tennessee General Assembly in 1974. Dr. Allen's efforts were a major reason behind the success of the effort.

Dr. Allen is one of the more respected physicians in Tennessee. The Association is extremely proud to honor him with its Distinguished Service Award

Hamel B. Eason, M.D., received his medical degree in 1954 from the University of Tennessee College of Medicine. He has practiced internal medicine in Memphis since 1960.

Since 1968, he has received various appointments as clinical professor of medicine at the University of Ten-

nessee College of Medicine. He was chairman of the Department of Internal Medicine at Methodist Hospital of Memphis from 1970 to 1973. He was president of its medical staff in 1973-74.

In 1984, he served as president of the Memphis-Shelby County Medical Society. At the same time, he was serving the first year of a two-year term as president of the Tennessee Society of Internal Medicine.

He has served as chairman of the board of Blue Cross-Blue Shield of Memphis and as a member of the board of directors of Health Care Coalition of Memphis.

He currently serves as a TMA alternate delegate to the American Medical Association. He is a past president of the Memphis Heart Association, and has served on the board of directors of Outreach, Inc., and Mid-South Medical Center Council.

It is with profound pride and pleasure that the Tennessee Medical Association presents its Distinguished Service Award to Dr. Hamel B. Eason.

Michael E. Glasscock, III, M.D., a native of Texas, received his medical degree in 1958 from the University of Tennessee College of Medicine. After practicing otology in Memphis and Los Angeles from 1966 to 1969, he began the practice of otology and neurotology and surgery of the skull base in Nashville in 1970.

He is editor-in-chief of the American Journal of Otology.

He is adjunct associate professor of hearing and speech at Vanderbilt University School of Medicine and clinical professor of otolaryngology at the University of Tennessee Center for the Health Sciences in Memphis.

Dr. Glasscock has received several awards in his field, including the Barraquer Memorial Award for important contributions to medicine and surgery through cinematography in 1969 and a 1970 Council on International Non-Theatrical Events (CINE) Golden Eagle Award for a film.

He received a Bronze Award from the British Medical Association Film Festival and a Red Ribbon Award from the American Film Festival of the Educational Film Library Association in 1970. In 1972, he received an International Film Festival Award in Belgium.

He has served as vice president of the Bill Wilkerson Hearing and Speech Center of Nashville, chairman of the Continuing Education Committee of the American Neurotology Society, member of the board of directors of the Alexander Graham Bell Association for the Deaf in Washington, D.C., and president of the Tennessee Academy of Otolaryngology.

It is a distinct honor and privilege for the Tennessee Medical Association to present its Distinguished Service Award to Michael E. Glasscock, III, M.D.

1985 TMA Annual Meeting—House of Delegates Composition First Session: April 10—Second Session: April 13

EX-OFFICIO MEMBERS	-		Caunty Society	First	Second
OFFICERS			Larry Javes	Sessian Present	Sessian
OFFICERS	First	Second	Larry Jayne Billy Galden	Present	Present Present
	Sessian	Sessian	Rick Baker	Present	Present
President	Present Present	Present Present	Danald Bales WASHINGTON-UNICOI-	Present	Present
Vice-President	Present	Present	JOHNSON Bayce Berry	Present	Present
Vice President		Present	Duane C. Budd	Present	Present
Vice President T. Jomes Humphreys		Present	Burgin E. Dassett	Present	Present
BOARD OF TRUSTEES	D	D	C. Ē. Gaulding Duane K. Fulks (student delegate)	Present Present	Present Present
Luthur A. Beazley, Jr. Jahn S. Buchignani	Present Present	Present	bodile K. Folks (stodelit delegate)	11636111	rieseiii
William F. Buchner	Present	Present			
Arden J. Butler, Jr.	Present	Present	MIDDLE TENNESSEE BEDFORD	Present	Present
Jack Butterworth, Jr. F. Hammand Cale, Jr.	Present Present	Present Present	BENTON-HUMPHREYS Subhi Ali	Present	Present
Hugh Francis, Jr.	Present	Present	BUFFALO RIVER VALLEY Parker D. Elrad	Present	Present
Nat E. Hyder, Jr.	Present	Present	COFFEE		Present
Malcalm R. Lewis Jahn R. Nelson, Jr.	Present Present	Present Present	DICKSON	Present	
Thurman L. Pediga	Present	Present	FRANKLIN	Present	Present
Paul R. Stumb	Present	Present	GILES J. Vance Fentress	Present	Present
COUNCILORS			JACKSON E. M. Dudney LAWRENCE J. Carmack Hudgins	Present	Present
1st District	Present Present	Present Present	LINCOLN	Present	Present
2nd District	· · · · · ·		MARSHALL Kenneth Phelps, Jr.		Present
4th District			MAURY	Present Present	Present Present
5th District Sue P.W. Jahnsan			MONTGOMERY J. G. Bush	Present	Present
6th District	Present Present	Present Present	O. S. Lutan	Present	Present
8th District	Present	Present	NASHVILLE ACADEMY H. Victar Braren Rueben A. Buena	Present	Present Present
9th District Jomes H. Ragsdale	Present	Present	Samuel H. Dillard, Jr.		Present
10th District	Present		John L. Farringer, Jr.	Present	Present
AMA DELEGATES	Description	Present	Charles M. Gill	Present	Present
William O. Miller John B. Thomison	Present Present	Present	James H. Grawdan, Jr. William B. Harwell, Jr.		Present Present
David H. Turner	Present	Present	Rabert W. Ikard	Present	Present
A. Ray Tyrer, Jr.	Present	Present	Jahn W. Lamb		Present
MEMBER OF AMA JUDICIAL COUNCIL			Ann H. Price Michael B. Seshul		Present Present
Jahn H. Burkhart	Present	Present	Jahn J. Warner	Present	Present
PAST PRESIDENT OF THE AMA Tam E, Nesbitt			Jahn K. Wright	Present	
PAST PRESIDENTS OF THE TMA			Edwin B. Andersan, Jr.		
Francis H. Cale		Present	Benjamin F. Byrd, Jr. Mark A. Doyne		
E. Kent Carter	Present	Present	Charles S. Hirshberg		
J. Kelley Avery	Present	Present	Albert P. Isenhaur, Jr.		
James W. Hays George A. Zirkle, Jr.	Present Present	Present	Kent Kyger Sarah H. Sell		
Allen S. Edmonson	Present	Present	James P. Wilson		
George W. Halcomb, Jr.		Present	PUTNAM	Present	Present
DELEGATES			ROBERTSON	Present Present	Present
EAST TENNESSEE GRAND DIVISION			Jahn Cunningham	Present	Present
County Society			SMITH	Present	
BLOUNT	Present	Present	SUMNER Llayd T. Brawn WARREN	Present Present	Present
Raymand A. Finney BRADLEY	Present Present	Present Present	WHITE	Present	Present
Larry Callins		Present	WILLIAMSON Jaseph Willaughby	Present	Present
CAMPBELL Burgin H. Waod			WILSON	Present	
CARTER David S. Archie CHATTANOOGA-HAMILTON William E. Rawe	 Dt	D	WEST TENNISSES		
Rabert E. Bowers	Present Present	Present Present	WEST TENNESSEE CONSOLIDATEDMantie E. Smith	Present	Present
Billy J. Allen	Present	Present	Oscar McCallum	Present	Present
C. Rabert Clark	Present	Present	Charles White	Present	Present
James R. Rayal Carl Adkins	Present Present	Present Present	Jerald White HARDIN Jahn D. Lay	Present Present	Present Present
David R. Barnes		Present	HENRY Joe D. Mabley, Sr.	· · · · ·	· · · · ·
Harry Stane		Present	MEMPHIS-SHELBY Rex A. Amanette		Present
Thomos W. Currey Alfred Ragers	Present Present	Present	Reed C. Baskin William L. Baurland	Present	Present
R. Phillip Burns	Present		Dee J. Canale	Present Present	Present
CUMBERLAND John Daugherty, Sr.		Present	T. Kyle Cresan		Present
GREENE	Present	Present	Jahn R. Crockarell	Present	Present
KNOXVILLE ACADEMY David G. Gerkin Fred A. Killeffer	Present Present	Present Present	Thamas A. Currey Hamel B. Easan	Present	Present Present
Jaseph B. Moon		Present	James C. Fleming		Present
R. Kent Farris		Present	Edgar R. Franklin	Present	Present
James C. Britt William J. Schneider	Present Present		James T. Galyan Jerry B. Gaach	Present	Present Present
Gearge H. Wood		Present	Albert J. Grabmeyer, III	Present	Present
William G. Laing		Present	C. Eugene Jabbaur	Present	Present
Rabert M. Overhalt William P. Sullivan		Present	James A. Mann Fyelva B. Oale	Present	Procent
William R. Sullivan Jahn T. Bushare			Evelyn B. Ogle Phil E. Orpet	Present Present	Present Present
Rabert H. Collier			James W. Pate		
Bergein F. Overhalt	 Dt	D	Richard E. Pearson	Present	Present
LAKEWAY	Present	Present	Phillip A. Pediga William Satterfield, Jr.	Present Present	Present Present
McMINN Fred J. Ergen	Present	Present	Daniel J. Scatt, Jr.	Present	Present
MONROE	Present	Present	Robert L. Summitt	Present	Present
ROANE-ANDERSON James E. Chapman William E. Bennett	Present	Present	Charles E. White Jessee C. Waodall, Jr.	Present Present	Present
Charles B. Gurney		Present	A. Brian Wilcax, Jr. (student delegate		Present
SEVIER		Present	NORTHWEST Bill Share	Present	Present
SULLIVAN	Present	Present Present	Rabert Clendenin TIPTON	Present Present	Present Present
			NPTOIN		i i Cacili

Ex-officio delegates serving in mare than one capacity are anly listed ance. The abave information was taken from attendance records signed by the delegates.



TENNESSEE MEDICAL ASSOCIATION

150th Annual Meeting

Memphis, Tennessee April, 1985

































(1) Outgoing TMA president Dr. Thomas K. Ballard, Jackson (left) relinquishing gavel to incoming president Dr. Clarence R. Sanders, Gallatin. (2) Outstanding Physician of the Year Award recipient Dr. Virgil H. Crowder, Sr., Lawrenceburg. (3) AMA president-elect Dr. Harrison L. Rogers, Jr. addressing the House. (4) Distinguished Service Award is presented to Dr. Charles E. Allen, Johnson City (right) by Dr. Luthur A. Beazley, Jr., Nashville, TMA Board chairman. (5) Distinguished Service Award recipient Dr. Hamel B. Eason, Memphis. (6) Distinguished Service Award recipient Dr. Michael E. Glasscock, III, Nashville. (7) Community Service Award recipient Mr. Fred P. Gattas, Sr., Memphis. (8) Community Service Award recipient Mr. John E. Seward, Johnson City. (9) Community Service Award recipient Mr. Bill Williams, Knoxville. (10) Outgoing TMA Auxiliary president Mrs. Wanda Gutch, Morristown (right) with incoming president Mrs. Frances Pedigo, Mc-Minnville. (11) Dr. James R. Royal, Chattanooga, newly elected TMA president-elect. (12) Dr. John R. Nelson, Jr., Knoxville, newly elected TMA Board chairman. (13) Recipients of AMA-ERF checks from the six Tennessee medical institutions with Mrs. Wanda Gutch. (14) IMPACT luncheon speaker U.S. Rep. Don Sundquist, Seventh District, Tennessee. (15) Medicine and Religion Breakfast speaker Dr. Maurice S. Rawlings, Sr., Chattanooga. (16) Health Project Contest winners from Kirkman Technical High School of Chattanooga with teacher Mrs. Dorothy Nation (left). (17) New TMA president Dr. Clarence R. Sanders, presiding. (18) House of Delegates in session. (19) Dr. and Mrs. Thomas K. Ballard and Dr. and Mrs. Clarence R. Sanders. (20) Honorees at the TMA Past Presidents Breakfast (standing) Drs. John H. Burkhart, Knoxville; E. Kent Carter, Kingsport; James W. Hays, Nashville; George A. Zirkle, Jr., Knoxville; David H. Turner, Chattanooga; George Baker Hubbard, Jackson; (seated) Drs. Allen S. Edmonson, Memphis; Francis H. Cole, Memphis; Nat E. Hyder, Jr., Johnson City; John B. Dorian, Memphis. (21) Dr. James R. Royal admires plaque presented to Mrs. Flo Richardson, recently retired executive director of the Chattanooga-Hamilton County Medical Society.









Call On Someone You Can Trust.

Because you want to entrust your patients to the best professional care, Saint Albans is a logical choice for your psychiatric referrals.

Since 1916, Saint Albans Psychiatric Hospital has provided a spectrum of care for emotional disorders.

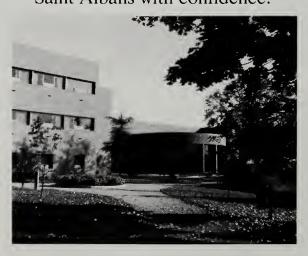
Today, we also offer specialized, fully accredited programs for adolescents, alcoholics, and substance abusers. We have special programs for senior adults and treatment of eating disorders. And we offer day treatment as an alternative to hospitalization.



Care is provided by our medical and professional staffs in a beautiful, modern hospital secluded along the New River. Admission can be arranged 24 hours a day. And all programs and services are approved for Blue Cross, Medicare, Champus, and most commercial insurance carriers.

At Saint Albans, we've built our reputation on the trust of referring

physicians who want the best for their patients. That's why you can refer to Saint Albans with confidence.



Private, Not For Profit Psychiatric Care

P.O. Box 3608 Radford, Virginia 24143 1-800-368-3468

Saint Albans

Psychiatric Hospital

Active Medical Staff:

Rolfe B. Finn, M.D. Medical Director Davis G. Garrett, M.D. Hal G. Gillespie, M.D. G. Paul Hlusko, M.D. William D. Keck, M.D. Ronald L. Myers, M.D. Basil E. Roebuck, M.D. O. LeRoyce Royal, M.D. Morgan E. Scott, M.D. Don L. Weston, M.D. Psychiatric Consultant D. Wilfred Abse, M.D.

REPORTS OF OFFICERS

Report of the President

THOMAS K. BALLARD, M.D.

I would like to take this opportunity to thank each individual member of the Tennessee Medical Association for allowing me the privilege to serve as president of this organization during the past year. This office has given me the opportunity to travel throughout the state of Tennessee, from east to west, from north to south, and to visit with small and large component societies. I have been afforded the pleasure of meeting many of my colleagues for the first time, and the privilege of visiting with old colleagues with whom I have worked in organized medicine. I have gained insight into many problems which face the practice of medicine today, as well as having heard opinions expressed by my colleagues as to how we can improve the quality of care to our patients in our daily practice. You could not realize the time this office requires until you have served in it.

We in our profession face changes from the way medicine has been traditionally practiced. During the past year we have seen the implementation of the Diagnosis Related Groups in our hospital setting with the object being how to get the best reimbursement to cost ratio, not how to provide care at the best price. We have seen the advent of the Professional Review Organization looking over our shoulder watching how we treat our Medicare patients. We have seen the advent of preadmission certification. We may look forward to the Diagnosis Related Groups being applied to Medicare patients as a payment mechanism in our offices in the very near future. We may look forward to preadmission certification from private industry and from insurance companies in the very near future. During the past year the advent of participating and nonparticipating physicians in the payment mechanism of our Medicare patients has brought about mass confusion. This was done without the input of physicians and enters directly into the doctor-patient relationship which has long been a tradition in our profession. There were incentives in being a participating physician and penalties put upon physicians who chose not to participate in this program. We now hear talk that the federal government will extend the price freeze on Medicare payments to physicians beyond the Oct. 1, 1985, deadline under the guise of lowering the cost of medical care. This seems to me to be putting a lid on payments, not a lid on costs.

Last year the governor of Tennessee formed a Select Committee on Health Care Cost Containment. This committee was made up of 41 individuals from all walks of life; however, only two physicians were appointed to this committee. This was an interesting commmittee which held numerous meetings and six public forums. There were many diverse opinions expressed by various groups as to how the state could lower the cost of health care in Tennessee. There were finally 31 recommendations which were forwarded to the governor for his consideration. He then forwarded his recommenda-

tions to the legislature for implementation. We shall hear from some of these recommendations, such as wellness, seat belt legislation, medical liability reform, and reimbursement mechanisms. The interplay in this committee was fascinating to watch, and I enjoyed being a part of this effort.

I must applaud the efforts of the Tennessee Medical Association Auxiliary during the past year. You will never know the help that our Auxiliary gives to our Association, not only helping their spouses, but furthering the cause for which we stand. This year, under the leadership of Mrs. Wanda Gutch of Morristown, our Auxiliary has worked vigorously on projects concerning teenage drinking and driving, on forums on the Governor's Healthy Children Initiative, and has participated in the Tennessee Coalition on School Health Education. The energy which they have demonstrated has been outstanding.

Many of our committees do yeoman's work without receiving much publicity. I speak specifically of our Legislative Committee which is chaired by Dr. Jim Hays of Nashville. Unless you have served on this committee you will not realize the hours which its members spend on legislation which affects all physicians. They testify in the House and the Senate and are active even when the legislature is not in session. One of the committees which most of my colleagues do not hear about, and which earns for the entire membership gratitude of many of our patients, is the Rural Health Committee. It was my privilege to attend their annual session this past year, and the remarks rendered by the participants at this meeting concerning our organization were heartwarming. Mention must be made of our Impaired Physician Committee and the excellent results that have been attained.

There is a great upheaval in our traditional practice of medicine occurring throughout the United States. This upheaval will continue, I predict, even into the next decade. I cannot say that I feel that this upheaval will be of benefit to our patients; I think the opposite is true. I can see that there is going to be a deterioration of the traditional fee-for-service relationship which we have enjoyed with our patients. There is only one avenue for handling this change and that is by direct contact with individual patients to explain to them what and why this is happening. The only way that this can be reversed, if it can be reversed, will have to come from our patients. The time spent with them will reap many dividends. If I could be accorded one wish it would be that all physicians become involved at all levels in the medical-political climate with which we are now faced. Each of you has a place in this effort; the time for cohesiveness is now. We must work harder to present our points of view, not only to our patients, but to the public at large. We need to convince our local, state, and national elected officials that our main concern is the quality of care of our patients, not the fees that we receive.

There are many avenues that I have not been able to explore this year. I do not know where the time has gone. We must look to our membership, to our endeavors in continuing medical education, to our involvement in the political arena, to development of rapport with our medical staff section, and

JUNE, 1985 365

to cooperative effort with other professions.

I would like to thank the efficient staff of the Tennessee Medical Association for making my job much easier. Our staff is excellent, and the cooperation which I have received has been superior. My task would have been much more difficult without their dedicated help.

Thank you again for affording me the opportunity to serve as your president. I have had a learning experience from which I can continue to profit in the years to come.

REFERENCE COMMITTEE C—reviewed the report of the president, expressed its gratitude to Dr. Ballard for his many contributions to the Association through the years, especially his untiring efforts and very effective leadership during his presidency, and recommended that the report be filed.

Report of the Board of Trustees

LUTHUR A. BEAZLEY, JR., M.D., Chairman

The Board of Trustees of the Tennessee Medical Association is composed of 14 physicians—nine elected trustees plus the president, president-elect, immediate past-president, speaker of the House of Delegates, and the vice-speaker of the House of Delegates. This is a dedicated group whose duty and responsibility is to manage the affairs of this Association during the interim between sessions of the House of Delegates. Your Board of Trustees has met six times since the last House session.

The Board and Executive Committee acted upon 128 separate items of business on behalf of the Association during the past 12 months. Many additional items and matters were considered and disposed of by telephone conferences and by mail when possible. Matters pertaining to general administration, finances, membership, annual meeting, AMA conventions, and Journal publication will all be reported on in detail by various officers and committee chairmen. The Board has assumed the responsibility for interim policy decisions in each of these areas as required by the Constitution and Bylaws. The demands upon each member of the Board, therefore, are much greater than perceived by the average member. A wide variety of subjects must be dealt with annually, many of which frequently require hours of preparation and study. The problems facing medicine in Tennessee demand such attention and the Association is fortunate to have the dedication and knowledge that is represented on the Board.

The affairs of the Board are administered through the Executive Committee and Board Committees on Finance, Publications, Exhibits, Long Range Planning, Travel and Voluntary Cost Containment. The Board must keep abreast of new activities on major health issues and considers and recommends programs and procedures to meet TMA's objectives. The Board is responsible for the fiscal soundness of the Association and maintains control of all financial affairs.

The following are abstracted highlights of some of the more important items of business acted upon by the Board during the past 12 months:

Second Quarter Meeting-April 11, 1984

The Board:

- —Appointed Dr. William H. Hartmann to serve as chairman of the Committee on Blood Banks and Medical Laboratories.
- —Voted to allow Resolution 10-77 to expire.
- Received for information a report on the TMA Leadership Conference held in February.
- —Approved appointment of Ezra Jones and Associates as the TMA auditor for the year of 1984.
- —Received a report on results of a medicolegal cost survey conducted jointly by TMA and SVMIC.
- —Received a report from Mid-South Foundation for Medical Care regarding their proposal to serve as the PRO organization in Tennessee.
- —Reviewed all resolutions to be introduced in the House of Delegates and adopted a postion of support of opposition to each.
- —Approved nominations of Drs. Daniel Scott, James T. Craig, Jr., and Robert C. Reeder to serve on the Emergency Medical Services Advisory Board.
- —Approved nominations of Drs. James C. Prose, J. B. Smalley, and Fred R. Knickerbocker to serve on the Emergency Medical Services Advisory Board.
- —Designated Board members and staff to serve as resource representatives to each reference committee.
- —Endorsed support of AMA model legislation for establishing a task force on prescription drug abuse.
- —Approved appointment of an ad hoc committee to review the duties and responsibilities of the office of TMA vice president.
- —Approved a request from the Tennessee Department of Health and Environment to endorse expansion of the Physician Recruitment Exchange Program to include two AMA Practice Management Workshops.
- —Approved writing a letter of endorsement for the Governor's Healthy Children Initiative to be submitted with a grant application from the Department of Health and Environment.
- —Approved CME statement of mission.
- —Received a summary of all TMA/TMA Auxiliary Health Project Contests.
- —Approved cancellation of the TMA/GTE Telenet distributorship contract.
- —Approved the 1983 audit as performed by the firm of Ezra Jones and Associates.
- —Accepted for information the first quarter operating report.
- Recognized retiring Board members Drs. Charles E. Allen, C. Eugene Jabbour, Malcolm R. Lewis, Clarence R. Sanders, H. Trent Vandergriff, and Charles W. White for their contributions.

Second Quarter Meeting-April 14, 1984

The Board:

- —Elected the following persons for 1984-85: Drs. Luthur A. Beazley, Jr., chairman; Dr. John R. Nelson, Jr., vice-chairman; Dr. Hugh Francis, Jr., secretary-treasurer; Mr. L. Hadley Williams, assistant secretary-treasurer.
- —Elected an Executive Committee and six committees of the Board.

- -Named Board members to serve as division coordinators.
- —Named Board members to serve as liaisons to each medical specialty organization.
- —Appointed Drs. Charles B. Thorne. George W. Holcomb. Jr., William C. Anderson, Howard W. Thomas, and Hugh Francis, Jr., to the Impaired Physician Loan Fund Board of Directors.
- Approved four requests from component societies for duesexempt status.
- —Reviewed meeting arrangements of the Emergency Medical Services Committee and approved scheduling at the discretion of the committee chairman with any expenses reimbursed in the same manner as other TMA committees.
- Approved a bank authorization resolution designating fund depositories and authorized signatures for day-to-day operation of the Association.
- —Approved nomination of Dr. David T. Dodd to serve on the Task Force for Prescription Drug Abuse.
- —Approved nomination of Dr. Thomas K. Ballard as TMA's representative on the task force reviewing health care costs.
- —Named the Hyatt Regency Hotel-Knoxville as the headquarters hotel for the 1987 annual meeting.
- —Received a report from the TMA Auxiliary of their intention to attend future IMPACT luncheons held during annual meetings. Arrangements have been made with IMPACT to allow presentation of awards to the winners of the Health Project Contests during the luncheons.
- —Heard from Dr. John H. Dawson of the AMA Board of Trustees.

Third Quarter Meeting-July 15, 1984

The Board:

- —Concurred with advocacy plan for implementation of Resolution 18-24.
- —Received a report on physician reimbursement under Medicaid and pilot projects (Maury County and the Professional Care Association Network).
- —Nominated Drs. Dee L. Metcalf. III, Richard L. Whitaker, James R. Royal, and B. E. Dossett, Jr., to serve on the board of directors of the Mid-South Foundation for Medical Care from East Tennessee.
- —Nominated Drs. Robert C. Dunkerly. Jr.. William M. Young. Thurman Baker. and Clarence R. Sanders to serve on the Mid-South Foundation for Medical Care board of directors from Middle Tennessee.
- —Nominated Drs. Thomas K. Ballard. Robert E. Clendenin. Jr., Rodney G. Elliott, and R. L. De Saussure. Jr., to serve on the board of directors for Mid-South Foundation for Medical Care from West Tennessee.
- —Nominated Drs. Edward W. Reed. Leonard J. Koenig. and Mary B. Duff to serve on the Medicaid Medical Care Advisory Committee.
- —Nominated Drs. Duane C. Budd. Charles E. Allen, and Richard W. Baker to serve on the Board of Medical Examiners.
- —Nominated Drs. Stanley E. Vermillion. H. Victor Braren. and A. N. Shenouda to serve on the Renal Disease Advisory Committee.
- —Nominated Drs. J. T. Jabbour, Patrick A. Kelley, and Barbara J. Olson to serve on the Epilepsy Advisory Committee
- -Approved a request from the Auxiliary for \$1.500 to defer

- printing costs of Christmas cards for AMA-ERF fund raising efforts.
- —Approved appointment of Dr. Jere Ferguson to serve on the TMA Committee on Blood Banks and Medical Laboratories.
- —Approved a 401(k) Salary Reduction Retirement Plan for employees.
- Approved appointment of an ad hoc committee on physician reimbursement.
- —Nominated Dr. Joseph L. Willoughby to serve on a state coalition for expanding health promotion issues for older Tennesseans and approved a recommendation to suggest a representative from the TMA Auxiliary also serve on the coalition.
- —Authorized the Executive Committee to finalize all recommendations to be presented to the Tennessee Select Committee for Cost Containment by the president.
- —Approved a letter to the Federal Black Lung Program recommending Drs. Tom W. Ellis, Jack Hixson, and Pete S. Soteres for possible participation in the program and notifying the program of a notice for participants to be placed in the TMA Newsletter.
- —Nominated Dr. Thurman L. Pedigo to serve on the board of directors of the Middle Tennessee Health Systems Agency.
- —Approved recommendation from the Committee on Hospitals to oppose pending legislation on legalization of heroin.
- -Agreed to maintain close liaison with the PRO board.
- —Approved support of a resolution from Washington/Unicoi County calling for a study on catastrophic/comprehensive insurance.
- —Approved sponsoring a 16-day South China Air/Sea Cruise in February 1985 as recommended by the Travel Committee.
- —Heard a report from Dr. Ballard regarding the AMA annual meeting in Chicago.
- -Approved Jan. 1, 1984-June 30. 1984 operating report.
- —Confirmed conducting the July 1985 Board meeting at Bent Creek Inn & Country Club near Gatlinburg.

Fourth Quarter Meeting-October 14, 1984

The Board:

- —Approved support of a modified Certificate of Need Position as presented by the president.
- —Heard from Dr. Hyder regarding the AMA Health Policy Agenda work groups.
- —Approved renewal of the contract with Dr. David Dodd as part-time medical director of the Impaired Physician Program for 1985.
- —Approved requests from the Impaired Physician Program to seek additional funding.
- —Approved the endorsement of or support of only TMA group insurance plans which include benefits for alcohol or drug dependencies.
- —Nominated Drs. Stephen Schillig, Edwin B. Anderson, Jr., and Ralph M. Greenbaum to serve on the Medicaid Formulary Advisory Committee.
- —Appointed Dr. David G. Gerkin to serve on the IMPACT board.
- —Appointed Dr. Theodore F. Haase. Jr., to serve on the TMA Legislative Committee.
- -Appointed Dr. Jacob T. Bradsher. Jr., to serve as vice

- president of East Tennessee.
- —Heard a report from the chairman of the Ad Hoc Committee to Study the Office of Vice President and approved the committee's recommendation to change the Constitution and Bylaws to eliminate the office of vice president.
- —Appointed Dr. James A. Greene to serve as chairman of the TMA Long Term Health Care Committee.
- —Approved cosponsorship of the Prescription Abuse Data Synthesis Project (PADS) with the Department of Mental Health and Mental Retardation.
- —Adopted memorial resolutions for Dr. Harold L. Neuenschwander and Mr. Jack Ballentine.
- —Approved support of a resolution from the Pediatric Society requesting legislation requiring adults to use safety belts.
- —Adopted policy that each individual physician should make his or her own decision regarding their participating or nonparticipating status in the Medicare Program.
- Declined to take action on requests from the Nashville Regional Organ Procurement Agency.
- —Nominated Drs. Allen S. Edmonson and A. Roy Tyrer, Jr., to serve on the AMA Council on Legislation and AMA Council on Long-Range Planning and Development.
- —Declined an invitation to appoint a delegate to attend the Pharmacopeial Convention.
- —Reaffirmed policy of limiting the use of the TMA mailing list to activities related to continuing medical education or to programs endorsed or sponsored by the Association.
- —Approved the third quarter financial statement.
- -Approved proposed 1985 budget of \$1,125,570.
- —Approved TMA reimbursement for the student delegate to TMA annual meetings from component societies eligible to send a student delegate.

First Quarter Meeting—January 12-13, 1985

The Board:

- —Heard from Dr. Allen, chairman of the Ad Hoc Committee to Study Sections in the TMA House of Delegates, and approved recommendation from the committee to submit a Constitution and Bylaw amendment to the House for establishment of a Hospital Medical Staff Section.
- —Received a report on the status of the Prescription Abuse Data Synthesis Project (PADS).
- —Appointed Drs. Charles E. Allen, Patrick J. Murphy, and John H. Burkhart to serve three-year terms on the TMA-SEF board.
- —Appointed Drs. Hugh Francis, Jr., Charles E. Allen, and Thurman L. Pedigo to serve on the board of the Tennessee Medical Foundation.
- —Appointed Dr. James Craig, Jr., to serve on the IMPACT board of directors, representing the 8th congressional district.
- Appointed Drs. J. T. Craig, Jr., Phillip A. Pedigo, and R.
 E. Clendenin, Jr., as the West Tennessee Nominating Committee.
- —Appointed Drs. L. T. Brown, J. W. Hays, and Charles E. Jordan, III, as the Middle Tennessee Nominating Committee.
- —Appointed Drs. Duane C. Budd, J. E. Strickland, Jr., and G. A. Zirkle, Jr., as the East Tennessee Nominating Committee.
- Appointed members to all standing and special committees.
- Received a report from the Committee on Communication and Public Service regarding seminars cosponsored by TMA

- and the American Association of Medical Assistants/Tennessee Society for 1984.
- —Approved the Trans National Gold Master Card Program as an additional service to the membership and as a method of creating supplemental income for the Association.
- —Instructed staff to obtain additional information on feasibility of establishing a for-profit insurance subsidiary with revenue projections and other recommendations.
- —Declined to endorse a magazine subscription program.
- —Approved establishing a relationship with I.C. Systems to provide collection services and drafting of a proposed contract for legal counsel review prior to signing.
- —Heard from Dr. Ballard on admission procedure problems of Mid-South Foundation for Medical Care.
- —Named Drs. Charles E. Allen, Hamel B. Eason, and Michael E. Glasscock, III, to receive the 1985 Distinguished Service Awards.
- —Named Fred P. Gattas, Sr., John E. Seward, and Bill Williams as recipients of the TMA Community Service Awards.
- —Reviewed all resolutions adopted in 1978 for possible reaffirmation and/or reintroduction in the House of Delegates.
- Directed Drs. Dodd, Thorne, and Hyder to prepare a response to an editorial, outlining the Impaired Physician Program in Tennessee.
- —Voted to respond to the Tennessee Society of Respiratory Therapy endorsing the concept of quality and adequate care in respiratory therapy.
- —Approved a \$500 contribution toward the Healthy Children Initiative Campaign printing costs.
- —Nominated Dr. Hal S. Stubbs to serve on the task force to review ambulatory surgical treatment center regulations for the state of Tennessee.
- —Adopted the recommendation of the Governmental Medical Services Committee to continue discussion with the Department of Health and Environment, regarding various payment methodologies in the Medicaid Program.
- —Accepted recommendations from the Travel Committee for TMA-sponsored trips in summer of 1985.
- —Approved appointment of a committee of three to investigate possible joint ventures with State Volunteer Mutual Insurance Company.
- —Appointed Mr. Charles L. Cornelius, Jr., TMA legal counsel for 1985.
- —Received for information the operating report for 1984.
- —Urged Board members to attend the annual AMA Leadership Conference.
- —Approved two requests for dues-exempt status.

Your officers and members of the Board of Trustees have worked earnestly and diligently, and have strived to keep the best interest of the members of this Association and the patients we serve uppermost in their deliberations. Attendance at meetings of the Board has been excellent. As the concerns of the Association in many new and uncharted areas grow, so do the demands that are made upon our officers and members of the Board. I commend each and every one you have elected to serve you for their sincere dedication, integrity, and willingness to serve. I am proud of having had the privilege of being chairman.

REFERENCE COMMITTEE C—reviewed the report of the Board of Trustees, expressed its appreciation to Dr. Beazley and the Board for managing the large volume of business of the Association during the past year extremely well, and recommended that the report be filed.

Report of the Judicial Council

JAMES T. CRAIG, JR., M.D., Chairman

The Judicial Council of the Tennessee Medical Association has not held a formal meeting this past year. All matters of ethical consideration received by the Council has been referred to the local component societies for their opinions and adjudication. There have been, to this date, no appeals from the local societies. The component societies are to be commended for their objectivity and dedication to resolving each issue that came to their attention.

Patients are becoming more aware of and responsible for their own health. As physicians, we are being called upon to more involve the patient in his overall health care. Physicianpatient relationships will have to be even stronger in the future with the increasing intrusion into medical practice by medical care delivery systems and corporations, new payment mechanisms and third party payors.

The Judicial Council advises each member to heed these fast-changing outside forces and never sacrifice quality medical care nor compromise the standards of conduct which define the essentials of honorable behavior for the physician.

I wish to express my sincere appreciation for the support of the Judicial Council over the past two years I have served as chairman.

REFERENCE COMMITTEE C—reviewed the report of the Judicial Council, expressed its appreciation to the members of the Council, and recommended that the report be filed.

Report of the Secretary-Treasurer

HUGH FRANCIS, JR., M.D.

The annual audit for the fiscal and calendar year ending Dec. 31, 1984 has been completed and is available for review. The customary examination of Association records was made by Ezra Jones & Associates, Certified Public Accountants.

The attached financial reports show the revenues and expenditures during 1984, as well as the assets, liabilities, and fund balances at the end of the year. We managed a slight increase in the operating fund of about \$20,000. This brings the balance up to \$1,586,387.29, which represents an operating reserve of about 17 months at the projected 1985 expenditure level. Addition of the property fund balance of \$279,088.93 to the operating fund balance places total equity at \$1,865,476.22.

We were fortunate in 1984 to operate without a deficit again. Prudent operating policies and investment management have resulted in additions to operating reserves for several years: 1984—\$20,000; 1983—\$45,000; 1982—\$107,000; 1981—\$127,000; 1980—\$171,000. However, the trend is unmistakable. Inflation and reduced interest rates have steadily eroded our annual operating surpluses. It appears that an operating deficit in 1985 is inevitable.

The Association remains in sound financial condition, and our resources are being managed wisely. However, if the anticipated 1985 deficit materializes, we may need to fortify our financial structure at this time next year.

TENNESSEE MEDICAL ASSOCIATION FUND BALANCE SHEET

	Year ended	December 31
	1984	1983
OPERAT:	ING FUND	
ASSETS		
Cash	\$ 281,898.06	\$ 120,442.19
Investments	1,440,360.00	1,647,625.00
Accrued Interest Receivable	73,144.22	38,472.46
Interfund Notes	168,900.00	168,900.00
Other Receivables		2,444.00
	\$1,964,248.28	\$1,977,883.65
LIABILITIES		
Accounts Payable	\$	\$ 7,778.97
Salary Escrow	11,257.50	14,746.06
	11,257.50	22,525.03
DEFERRED CREDITS		
Dues Collection Escrow	366,603.49	389,909.00
FUND BALANCE	1,586,387.29	1,565,449.62
	\$1,964,248.28	\$1,977,883.65
PROPER	TY FUND	
ASSETS (at cost)		
Land	\$ 64,803.09	\$ 64,803.09
Building	199,743.72	199,743.72
Equipment	123,316.55	113,607.77
Autos	20,905.91	17,743.81
	408,769.27	395,898.39
Less Accumulated		
Depreciation	129,680.34	120,235.84
FUND BALANCE	\$ 279,088.93	\$ 275,662.55

TENNESSEE MEDICAL ASSOCIATION JOURNAL INCOME AND EXPENSE Year Ended December 31, 1984

	Total	Readership	Advertising
INCOME			
Allocation of Dues	\$ 58,116.00	\$58,116.00	\$
Advertising	51,105.57		51,105.57
Subscriptions	2,539.40	2,539.40	
	\$111,760.97	\$60,655.40	\$51,105.57
EXPENSES			
Printing and			
Distribution	\$ 87,150.79	\$55,055.04	\$32,095.75
Editor and Board	3,107.50	3,107.50	
Clerical Assistance	600.00	600.00	
Clipping Service	1,826.66	1,826.66	
Salaries	18,900.00	9,450.00	9,450.00
Employee Insurance	1,204.75	602.37	602.38
Taxes	1,260.00	630.00	630.00
Travel	669.80	334.90	334.90
Overhead	23,898.70	15,932.45	7,966.25
	\$138,618.20	\$87,538.92	\$51,079.28
JOURNAL INCOME			
(Loss)	(\$ 26,857.23)	(\$26,883.52)	\$ 26.29

TENNESSEE MEDICAL ASSOCIATION OPERATING FUND STATEMENT OF REVENUES, EXPENDITURES AND FUND BALANCE

	Year ended 1984	December 31 1983
REVENUES		
Dues TMA (net of		
\$58,116.00 to Journal)	\$ 739,991.01	\$ 588,547.50
	27,900.00	34,218.77
Annual Meeting—Exhibits Annual Meeting—Tickets	7,758.00	8,019.00
Annual Meeting—		
Opry Tickets		3,128.00
Investment Income	170,725.48	153,689.48
AMA Fees for		
Dues Collection	7,759.10	7,363.59
History Orders		177.00
	\$ 954,133.59	\$ 795,143.34
EXPENDITURES		
Administrative	\$ 435,765.28	\$ 402,066.90
Administrative Support &		
Services	22,490.65	21,616.51
Travel—Staff	29,359.15	27,979.09
Officers	46,995.22	51,802.64
Impaired Physician Program	70,334.00	15,190.14
Committee Expense	15,950.02	12,372.36
Legislative Expense	36,830.77	29,380.02
Other Organizations	139,845.00	55,455.00
Annual Meeting	36,013.23	37,310.22
Taxes	27,246.28	25,619.61
Headquarters Building	20,855.92	19,328.57
Capital Expenditures	19,254.07	10,124.05
Contingencies	5,399.10	6,282.60
	\$ 906,338.69	<u>\$ 714,527.71</u>
Excess Revenues Over		
Expenditures	47,794.90	80,615.63
Excess Journal Costs	(26,857.23)	(35,272.81)
Net Income	20,937.67	45,342.82
FUND BALANCE		
Beginning	1,565,449.62	1,520,106.80
Ending	\$1,586,387.29	\$1,565,449.62

REFERENCE COMMITTEE C—reviewed the report of the secretary-treasurer, and commended Dr. Francis for his very effective work in dealing with the financial affairs of the Association. The committee noted that with a considerable projected deficit for 1985, a dues increase is inevitable. The committee recommended that the report be filed.

Report of the Executive Director

MR. L. HADLEY WILLIAMS

It is my pleasure to present this "state of the association" report as your executive director. The overall condition of the Association is good. The year 1984 was a busy 12 months with the increased emphasis being placed on the work of the Impaired Physician Committee and Student Education Fund. These two programs now represent and consume 17% of the annual budget expenditures.

As I have alluded to in my last two annual reports to the House, the fiscal soundness and financial condition of the Association requires close and immediate attention. At this time last year, I predicted a year-end deficit of expenditures over receipts. This was avoided but barely. Our audit shows we were able to conduct the business of the Association and finish the year at just above the break-even point. Unfortunately, I see no way this can be accomplished in 1985 and our projections are that a deficit of nearly \$100,000 will result. If our projections are accurate, the deficit will be made up from reserves which will lower our ability to earn interest income to help support the budget in the future.

The country's economic situation of the past year that saw interest rates drop dramatically has lowered that portion of income we are able to generate from reserves to 14.5% of our budget. In 1981 and 1982 we were able to generate 28% of our budget from income off reserves, or double our 1985 projections. With a deficit of just under \$100,000 being anticipated, serious consideration of a dues increase must be made immediately. The current \$170 annual dues is one of the lowest of any state association. When the \$40 earmarked portion is subtracted, the \$130 becomes the nation's lowest. We cannot continue to operate at an ever-increasing level with the same amount of dues that was established in 1976.

Membership in the Association, increasing by substantial numbers for the past several years, returned to a more normal rate of increase last year. A net gain of 40 members in 1984 compares with a net gain of 240 in 1983 and 232 in 1982. This is another factor in the amount of income generated by dues-paying members. Our membership figures of TMA members who opted to also belong to the American Medical Association has paid dividends. Under new AMA policy, any state association whose membership includes at least 75% AMA members is rewarded with an additional delegate and alternate to the AMA House of Delegates. Tennessee qualifies for this additional representation this year and you will be asked to elect a new delegate and alternate to join our current six delegates and alternates in representing our state at the AMA meetings in June and December of this year. Tennessee was one of nine states receiving an additional delegate under the new policy. In addition, the AMA House also adopted new policy which provides that all state and local medical societies that require unified membership in local, state and AMA will receive a rebate of 10% of their AMA dues. As a result, members from the Chattanooga and Hamilton County Medical Society will receive rebate checks directly from AMA next month totaling nearly \$15,000. Several other smaller local societies in Tennessee currently have 100% membership in TMA and AMA. A simple bylaw change by the local society requiring such unified membership for society members will also result in a 10% rebate of AMA

TMA MEMBERSHIP REPORT As of December 31, 1984

	1984	1983	1982	1981	1980
Dues Paying Active					
Members	4,772	4.714	4,616	4.519	4,419
Dues Paying Resident					
Members	71	79	87	73	65
Dues Exempt Members	751	761	611	490	427
Veteran Status440					
Military, Disabled					
and Retired192					
Student					
TOTAL	5.594	5,554	5.314	5.082	4.911
Deaths	51	43	39	41	36

AMA members from Tennessee Medical Association:

Dues Paying	3,535
Dues Exempt	611
Direct Members	1.549
TOTAL AMA MEMBERS	5 605

(75% of TMA members are AMA members)

dues for those members. I strongly urge consideration of this new AMA policy by local societies in order to take advantage of the AMA dues rebate.

Physicians today face the acute challenge of maintaining control over their independent practices of medicine in the midst of volatile changes within the health care industry. Some of the factors that will continue to have an uncertain impact upon the future of physicians' practices include the following:

- continued expansion of the physician population, thus creating additional competitive pressures within many communities;
- growth of business/health care coalitions composed largely of purchasers of health care:
- proliferation in the number of health maintenance organizations, which serve to channel patients to or away from individual providers:
- DRG payment and other federal attempts to mandate cost containment;
- increased state use of prospective payment for Medicaid recipients;
- federal encouragement of capitation plans and other forms of organized care for Medicare beneficiaries.

The only certainty regarding the future is that there will continue to be change. Alternate delivery systems are being considered or are being developed by physicians in various parts of the state which will provide an opportunity for participating physicians to maintain or expand their patient base while exerting their own control over the delivery of health care services. Each of these new delivery mechanisms attempts in various ways to maximize efficiency in the delivery of health care services, while allowing the sponsors and participating providers to earn financial rewards for more cost-effective performance. The Association will continue to monitor and keep members abreast of these new developments and to provide timely information that will assist physicians

to understand and make conscionable decisions regarding the future of their practice.

I would like to express my appreciation to all of the officers and Board members for the many hours they have contributed on the part of the profession and for the leadership they have provided TMA during the past year. My personal thanks are extended to Dr. Tom Ballard, your president, for providing strong leadership and direction and for always being available, frequently on very short notice, when he was needed and called upon. He literally commuted from Jackson to Nashville all year and did so many times at the expense of his practice and family.

Strong leadership ability has been demonstrated by the president-elect. Dr. Clarence Sanders, who will assume the presidency at the conclusion of this annual meeting. I look forward to the coming months and my work with Dr. Sanders

I am also pleased to express my gratitude and deep appreciation to a loyal and dedicated staff. Your employees are firmly dedicated to providing the highest possible quality of services to the membership and I feel TMA is extremely fortunate to have such a capable group of individuals as their staff.

We appreciate having the opportunity of working for you.

REFERENCE COMMITTEE C—reviewed the report of the executive director, commended Mr. Williams for again performing his job for the Association in an outstanding manner, and recommended that the report be filed.

Committee Reports

The following standing and special committees made annual reports to the House of Delegates:

- -Committee on Scientific Affairs
- -Committee on Legislation
- -Committee on Governmental Medical Services
- -Committee on TMA Group Insurance
- -Committee on Constitution and Bylaws
- -Committee on Hospitals
- -Committee on Peer Review
- -Committee on Communications and Public Service
- -Interprofessional Liaison Committee
- -Committee on Continuing Medical Education
- -Committee on Rural Health
- -Committee on Emergency Medical Services
- -Advisory Committee to TMA Auxiliary
- -Committee on Medicine and Religion
- -Impaired Physician Committee
- -Committee on Health Planning
- -Primary Health Care Clinics Committee
- -Committee on Long Term Health Care

FINANCIALLY

are you where you thought you would be? Or, do you find yourself making more—but keeping less?

Young Neff Financial is headed by Physician spouses; acutely aware of the unique problems physicians face. Combining over twenty-two years of experience, Peter Young and Charles Neff have created personal financial programs for the physicians to deal with these problems ... giving them back the life they've earned.

YOUNG NEFF FINANCIAL

Vanderbilt Plaza • Suite 725 2100 West End Ave. • Nashville, TN 37203 (615) 329-4770

Tennessee



PRACTICE OPPORTUNITIES

The Tennessee Physician Placement Service acts as a clearinghouse for private practice physicians seeking a Tennessee community in which to establish a practice, whether solo, partnership, group or salaried position is your preference. This is accomplished by allowing physicians seeking associates and communities seeking a physician to list their opportunity. We then disseminate this information to inquiring physicians. Our service also assists physicians interested in public health, mental health or physicians with a National Health Service Corps obligation. There is no charge for this service.

For further information, please contact:
Physician Placement Service
Tennessee Department of Health and Environment
100 9th Avenue North
Nashville, Tennessee 37219
(615) 741-7308

Peninsula Hospital

- Adult and Adolescent Psychiatric Programs
- Adult and Adolescent Chemical Dependency Programs
- 93 Beds Joint Commission Accredited
- Medical Detox
- Group, Individual and Family Therapy
- State Approved School Program
- Activity Therapy Programs Coping Skills Groups
- Speaker's Bureau Community Education
- Most Insurance Plans Accepted
- Specialized Programs for Stress, Depression, Sleeping and Eating Disorders
- 24 HOUR ADMISSIONS AND INFORMATION

PENINSULA HOSPITAL Jones Bend Road Louisville, Tennessee 37777

573-7913

970-9800



president's page



CLARENCE R. SANDERS

Back to Basics

Do you ever long to return to those days when you could simply, and with much joy and satisfaction, practice medicine. . . . diagnose and treat your patients, really talk with them, perhaps confer with a trusted colleague on a particularly sticky problem; then, at the month's end, mail out statements and usually receive payment, and, confident that you had rendered good service, expect to see them again if and when the need should arise?

I have . . . and I do . . . but, sadly, now that the practice of medicine has become "big business," those days are probably lost forever. Much of what fundamentally made the medical profession a noble one has been lost in the shuffle. Those basic tenets of integrity and honor, professionalism, real dedication, and that deep abiding desire to relieve human pain and suffering, have been buried under a veritable avalanche of changing attitudes, fierce competition and greed among and between members of our profession, conflicting and radical opinions, and continual bombardments of marketing innovations and techniques. Indeed, the pressures being exerted from every side today upon medical practitioners have taken away a large measure of the genuine satisfaction that a physician should be allowed to enjoy when, due to his individual skill and concerned care, life has been sustained and suffering has been alleviated.

As we begin this new year I would hope that each of us will make a silent but determined resolution to return to the basics of practicing medicine. Let's get back to doing what we were trained to do . . . treating our patients to the very best of our knowledge and ability. Let our patients know that we consider their welfare our foremost consideration and responsibility. Changing ideas and competition are certainly healthy for any profession, but, as in any endeavor, there can be the danger of too much of a good thing. There is enough suffering in the world to keep all of us working day and night for the rest of our lives. Ours is a market that is never going to run dry . . . and, oddly, that is not a very comforting thought.

clarence R Sanders MP

journal of the **tennessee** medical association

PUBLISHED MONTHLY

DEVOTED TO THE INTERESTS OF THE MEDICAL PROFESSION OF TENNESSEE

OFFICE OF PUBLICATION: 112 LOUISE AVENUE, NASHVILLE, TN 37203

JOHN B. THOMISON, M.D., EDITOR

ADDISON B. SCOVILLE, JR., M.D., ASSOCIATE EDITOR

JEAN WISHNICK, MANAGING EDITOR

JEAN WISHNICK, MANAGING EDITOR

Acceptance for mailing at special rate of postage provided for in Section 1103, Act of October 3, 1917, authorized July 15, 1932.

Copyright for protection against republication. Journals of the American Medical Association and of other state medical associations may feel free to quote from this Journal whenever they desire merely giving credit to this publication.

Address papers, discussions and scientific matter to: John B. Thomison, M.D., Editor, P.O. Box 70, Nashville, TN 37202

Address organizational matters to L. Hadley Williams, Executive Director, 112 Louise Avenue, Nashville, TN 37203

COMMITTEE ON SCIENTIFIC AFFAIRS

OSCAR M. McCALLUM, M.D., Chairman, Henderson SIDNEY L. BICKNELL, M.D., Jackson WINSTON P. CAINE, M.D., Chattanooga CLAUDE H. CROCKETT, JR., M.D., Bristol FRANCIS W. GLUCK, JR., M.D., Nashville JOHN B. THOMISON, M.D., Nashville, Ex-Officio

JUNE, 1985

editorials

The Cattle on a Thousand Hills

With a few exceptions, most of them pathologic cases, nobody wants to die, yet sooner or later everyone must. That becomes a problem when one seems destined to go sooner—sooner, that is, than he had planned, or than he thinks fair. It happens all the time.

Traditionally, when a ship is sinking the call is for "women and children first" into the lifeboats. In practice it has frequently been the strongest, which may mean the crew. There is one school that holds that the most productive should be first, and this "lifeboat" theory has been applied to everything from world hunger to rationing of medical care. It is a theoretical triage that that can lead to an administrative morass. The easy solution for triage is to produce an easily identifiable group. such as "women and children." If the survivors are to be the strongest, they have to work for their survival, but that is relatively easy, too. Choosing the most productive is something else again; in fact, it is not unlikely that everyone would drown before it could even be decided who should decide who are the most productive (nearly everyone would first choose himself). So much for the lifeboat theory.

The time between the two world wars (which used to seem like a long time, though it was only twenty years) was a time of unrest and muscle flexing. In Europe republics were falling and dictators emerging, and Asia was in turmoil. Public opinion in America decreed that we stay out of it, since we had troubles of our own, what with the depression (which was, incidentally, worldwide), bathtub gin, rumrunners, "public enemies," Gmen, and so on. When Mussolini invaded Ethiopia, Haile Selassie, the Conquering Lion of Judah, and his tattered army stood off the Italian troops for a long time, becoming sort of folk heroes to us college boys—much like the Afghans today. Ethiopia has been in and out of the news in the last decade or so as the Conquering Lion was deposed by a communist-led coup. As it turned out, the Ethiopians had problems they had not even used yet.

Like most of you—maybe all of you—I have been hungry and thirsty. Nevertheless, the pangs have always been mitigated by the knowledge that they would eventually be assuaged. In fact, hunger pangs go away after a while even if you don't eat, although they come back in a different way if you put it off too long. In Africa it has not rained much for two years. In much of East Africa, including Ethiopia, it has not rained at all. There is now simply nothing there to eat. In extreme situations, people have been known to kill and steal to feed their children. In Ethiopia there is nothing to steal. And so they die. Some die by their own hands, but most simply lapse into a stupor and go. Being stronger, the adults watch their children die first. There is no hope—or at least none but what little

the rest of the world can give them.

There is a well-known Scroogism to the effect that if without help they would die, it is better for them to do so and decrease the surplus population. You see, in Dickens' time England had its share of the destitute. We have them even now in this country, blessed as it is. But nobody (maybe an occasional one slips by us, but almost nobody) literally starves to death—or did in Dickens' England, either. Like Robin Hood, we take it from the rich and give it to the poor. In Ethiopia there is simply nothing there. So should they be left to die and decrease the surplus population? According to the lifeboat theory, yes.

The lifeboat theory would say, "The poor you have with you always. A few years ago it was Bangladesh. Tomorrow it will be somewhere else. Today it is Ethiopia. You can't feed them all. Thousands will die no matter what you do." We arrive too late with too little, but anyway, charity begins at home, and we have lots of hungry here to feed and children to educate (and cigarettes and beer to buy and movies to go to, and—well, you wouldn't want us not to have any fun, would you? After all, we've *earned* it!)

So the Ethiopians earned death? Did they not simply have the misfortune to be born at the wrong time and in the wrong place, just as we had the good fortune to be born . . . ? To get back to the lifeboat theory—you can't feed them all, so why bother? Of the first to say "The poor you have with you always," we are told He had compassion for the multitude; He told them to sit down and He would feed them—all 5,000 of them, and that counted just the men. When asked what five small loaves of bread and seven small fish would do among so many, He said it was enough. I know there are several theories, some miraculous and some not, about what happened next, but for this discussion that is beside the point. The point is, the crowd got fed. Jesus was not deterred by the overwhelming odds.

The lesson to be learned from that is that the Ethiopians will clearly not be fed if everyone says they will not. No more will all of the elderly and all of the medically indigent among our patients have all that fancy medical care if we are determined they cannot possibly, and that medical care will have to be rationed. Perhaps that is indeed the case, and like the Ethiopians, patients will die because available care is unavailable.

We have colleagues who are in Ethiopia fighting against odds that most of us will never face, I hope. Like each of us, they deal not with masses of people, but with individual patients. Like us they have a duty to be sure that insofar as it is in their power their patient gets the care he needs at the moment he needs it. Unlike our patients, their patients' problems are enormously complicated by incredible malnutrition. The lifeboat has left them out.

Whether or not, as I happen to believe, the five loaves and seven fishes miraculously fed the multitude on the Galilean hillside, I have seen abundant evidence that what is not in our power is well within God's with a lot to spare. But He has no other hands than ours, and though He owns the cattle on a thousand hills (not to mention the contents of our pocketbooks), some body has to milk them and lead them to slaughter. The hands are there to deliver the help. One good set of them belongs to MAP International, which stands for Medical Assistance Program, whose address is P.O. Box 50, Wheaton, IL 60178; they are transporting plane-loads of medical supplies to care for the sick, working through such on-site agencies as CARE and World Vision, who are trying desperately to feed not 5,000, but thousands times 5,000.

While you are counting your blessings, if you can't think of any good reason they have come your way instead of to some starving Ethiopian, perhaps you will send some of yours his way.

J.B.T.

On Being Human

I have never been big on assigning or assuming corporate guilt, believing the national breastbeating that succeeded such things as the Vietnam war and the assassination of President Kennedy to have been vastly overblown. It is easy to lay blame for atrocities, either real or imagined, but difficult to establish it. Meting out justice—or ensuring that it is justice that is being meted out is even more onerous. Individual criminals need to be brought to justice, but assignment of corporate guilt tars the just and the unjust with the same brush. To convict "The Jews" for the murder of Christ is to ignore the fact that all his early followers were also Jewsand in any case the Romans were the actual murderers, and then only after Pilate became convinced that Jesus indeed intended to set himself up as a king in defiance of Caesar (or more precisely that Pilate's superiors thought he was going to). It was a political murder either way.

I think it appropriate that the Easter season (or more specifically Good Friday) coincides roughly with Passover, which has become the time of remembrance for the Nazi Holocaust, an episode in its history the world would sooner forget, but shouldn't. How is it, we must all ask, that the good people of the world stood by and looked on as five million Jews were exterminated? The answer is that they did not look upon it. If that answer is too easy, it is because it is in answer to the wrong question. Most of the inhabitants of the world, including those where the genocide was happening, simply did not see it. Why did they not, is the appropriate question.

There is an easy answer to that one, too. It is that although we can easily ascribe atrocities to the Japanese, for example, because they are different, "our kind" simply would not do such a thing. Even the Jews would not for a very long time believe their own countrymen would destroy them. Then, too, the philosophy after the first world war was that if one kept repeating, "Every day in every way I'm getting better and better," he would, and western man was acting out that assumption. The evidence to the contrary was widely ignored as likely fabrication.

This explanation, though, is a superficial one, and ignores the increasing numbers as time went on who in the face of incontrovertible evidence chose to do nothing. Why were there so few who behaved as human beings instead of beasts? One writer opined that although the actions of the few who at the risk, or even the cost, of their lives saved thousands of Jews restored one's faith in humanity, the inaction of the millions destroyed one's faith in society. That is a misapplication of terms.

The serpent in the Garden of Eden, we are told, beguiled Eve into eating the forbidden apple, assuring her she would not die, as God had said, but would in fact be like the gods in knowing good from evil. That is not why Eve ate the apple, though; we are told Eve ate the apple because she saw that it was a delight to the eyes and good for food. And why did Adam eat it? Can't you hear them? "Come on, Adam; look, I ate it and I didn't die. It's great. Just taste it." "No, Eve. God said—" "Boo-hoo! You don't love me anymore." "But, Eve—" "See if I go to bed with you tonight!" "Oh, well. OK. Give it here." Pleasure. Comfort. Willfulness. Human.

Every year hunters go above the Arctic Circle

and club to death thousands of seal pups for their white, downy coats. A few concerned citizens have tried various means, including pitifully inadequate force and equally ineffective lobbying, to prevent the slaughter. The lobbying of the commercial interests understandably works better. The hunters and the Congress are simply being human. What the concerned citizens are being is humane.

To expect humanity to do right is to ignore history. The Crusades were fought and Saracens, including non-combatants, killed on sight in the name of Christ's Church (just as the infidel was killed by the Saracen on sight in the name of Allah). But we are more civilized now, are we not? Sure we are. Look at the Holocaust. Look at the Gulag.

There are not very many truly evil individuals; no more are there very many truly good ones—in fact *no truly* righteous ones at all, as every religion teaches. The rest of us are merely human. Almost everyone in every western nation watched with unseeing eyes as the Jews were marched off to the ovens. To have seen would have required a decision, and a decision either way would have been painful. Even worse, to have become involved would have required commitment, and that could be costly in terms of that much beloved comfort, pleasure, and so on. It could even get you killed, and in fact often did.

Look indeed at the Holocaust. Each year may not be often enough. It was perpetrated by the unseeing human race. Man needs to be not more human, but more humane—in short, to rise above that humanity he prates so much about.

J.B.T.



Richard Bucher, age 57. Died March 25, 1985. Graduate of University of Tennessee College of Medicine. Member of Carter County Medical Society.

William Edwin Gupton, Jr., age 62. Died March 31, 1985. Graduate of Vanderbilt University School of Medicine. Member of Nashville Academy of Medicine.

TMA Members Receive AMA Physician's Recognition Award

Thirty-six TMA members qualified for the AMA Physician's Recognition Award during March 1985.

To qualify for the PRA, a minimum of 150 hours of continuing medical education must be earned over a three-year period; 60 of these hours must be Category 1.

This list does not include members who reside in other states. Names of additional PRA recipients will be published as they are received from AMA.

N. Alan Barnes, M.D., Kingsport Catherine A. Boatwright, M.D., Chattanooga David G. Bowers, Jr., M.D., Nashville James L. Breyer, M.D., Cookeville Colin C.D. Clarendon, M.D., Memphis Glenna J. Corley, M.D., Memphis McCarthy DeMere, M.D., Memphis George E. Duncan, M.D., Nashville Thaddeus H. Ferrell, M.D., Memphis James H. Fleming, Jr., M.D., Nashville John D. Franklin, M.D., Chattanooga Thomas G. Grabenstein, M.D., Clarksville Jack R. Halford, M.D., Memphis Cauley W. Hayes, Jr., M.D., Chattanooga James H. Hendrix, Jr., M.D., Memphis Allen H. Hughes, M.D., Memphis Frank L. Jayakody, M.D., Shelbvville Jimmy W. Kee, M.D., Jackson Joo Taek Kim, M.D., Morristown Ronald F. Kourany, M.D., Nashville Allen D. Lewis, M.D., Chattanooga John B. Lynch, M.D., Nashville James L. Manning, M.D., Dresden Joseph M. Mansy, M.D., Knoxville Edward T. McNeeley, M.D., Norris Homer C. Ogle, M.D., Knoxville Warren C. Ramer, Jr., M.D., Lexington John R. Reynolds, M.D., Chattanooga David G. Stanley, M.D., Oak Ridge M. David Stockton, M.D., Sewanee Edward L. Tarpley, M.D., Nashville Carson E. Taylor, M.D., Lawrenceburg Kirkland W. Todd, Jr., M.D., Nashville William C. Walley, M.D., Kingsport Charles E. White, M.D., Memphis Eugene J. Winter, M.D., Nashville

new members

The JOURNAL takes this opportunity to welcome these new members to the Tennessee Medical Association.

BRADLEY COUNTY MEDICAL SOCIETY Janet Snoddy, M.D., Cleveland

CHATTANOOGA-HAMILTON COUNTY MEDICAL SOCIETY

Frank Bishop, M.D., Chattanooga
Katherine Hankins, M.D., Chattanooga
Donald Merrill Kinkel, M.D., Chattanooga
V. Alan Lombardi, M.D., Chattanooga
Brent Sterling Morris, M.D., Chattanooga
Doyce Gene Payne, M.D., Chattanooga
Glenn Noel Pomerance, M.D., Chattanooga
Indravadan K. Shah, M.D., Chattanooga
Thomas Edward Taylor, M.D., Chattanooga
Neil Howard Spitalny, M.D., Chattanooga
Samuel Burton Parker, II, M.D., Chattanooga

CONSOLIDATED MEDICAL ASSEMBLY OF WEST TENNESSEE

Samuel N. Crosby, M.D., Jackson Jerry D. Peters, M.D, Jackson Roderick C. Webb, M.D., Humboldt

KNOXVILLE ACADEMY OF MEDICINE

Paul Dutky, M.D., Knoxville
Jan T. Hahn, M.D., Lenoir City
Janet K. Johnson, M.D., Louisville
M. Dianne Murphy, M.D., Knoxville
Mark L. Nelson, M.D., Knoxville
Christopher E. Sawyer, M.D., Knoxville
Robert K. Tatum, M.D., Knoxville
Margaret Uri, M.D., Knoxville

LAKEWAY MEDICAL SOCIETY Russel D. McKnight, M.D., Morristown

NASHVILLE ACADEMY OF MEDICINE

Keith Gerald Bernard, M.D., Nashville Teresa G. Huggins, M.D., Nashville John W. Lea, IV, M.D., Nashville John Louis Link, M.D., Nashville Charles Austin Mitchell, M.D., Nashville W. Thomas Patten, M.D., Madison Stewart Neal Perlman, M.D., Nashville Kristina A. Steinberg, M.D., Nashville Buford Paul Turpen, M.D., Madison

(Students)

Jan Lewis Brandes, Nashville David Mark Gilliam, Nashville Donald Williams Griffin, Nashville Jamie Maria Monroe, Nashville Kenny Stein, Nashville Brooke Stevens, Nashville Melissa Kay Thomas, Nashville John A. Waites, Nashville

ROANE-ANDERSON COUNTY MEDICAL SOCIETY

Howard M. Guthmann, M.D., Harriman

SULLIVAN COUNTY MEDICAL SOCIETY

James B. Phillips, M.D., Kingsport James Thomas Wilson, III, M.D., Bristol

WASHINGTON-UNICOI-JOHNSON COUNTY MEDICAL ASSOCIATION

Jacqueline J. Lloyd, M.D., Johnson City Judson C. McGowan, M.D., Johnson City

perronal news

James P. Craig, M.D., Johnson City, has been inducted as a Fellow of the College of American Pathologists.

C. Harwell Dabbs, M.D., Rockwood, has been inducted into the International College of Surgeons.

Larry D. Hudson, M.D., Johnson City, has been inducted as a Fellow of the American College of Physicians.

Henry P. Pendergrass, M.D., the new president of the Tennessee Radiological Society, has been named a Gold Medalist of the Radiology Society of North America.

James W. Williams, M.D., Memphis, a national authority on liver transplants, has received the Distinguished Alumni Award from Memphis State University.

announcement/

CALENDAR OF MEETINGS

NATIONAL

July 4-6	American College of International Physi-
	cians—Hotel Niagara, Niagara Falls, N.Y.
July 13-16	American Association for Clinical Immu-
	nology and Allergy-Sheraton-Palace, San
	Francisco
July 14-19	Flying Physicians Association—Sun Valley
	Lodge, Sun Valley, Idaho
July 16-18	Association for the Care of Asthma—Grand
	Hotel, Mackinac Island, Mich.
July 20-25	National Medical Association—MGM Grand
	Hotel, Las Vegas

July 21-26	American Association for Clinical Chemis-
·	try—Georgia World Congress Center, Atlanta

July 24-28 Society for Pediatric Dermatology—Dunfey Hyannis Resort and Conference Center,

Cape Cod, Mass.

North American Symposium on Dialysis and

Aug. 4-8

North American Symposium on Dialysis and Transplantation—Stouffer's Waielea Beach Hotel, Maui

Aug. 7-10 National Medical and Dental Association—Williamsburg Inn, Williamsburg, Va.

Aug. 18-21 Midwest Surgical Association—Interlaken Lodge/Villas, Lake Geneva, Wis.

Aug. 18-22

American Society for Pharmacology and Experimental Therapeutics and American Chemical Society-Division of Medical Chemistry, Sheraton, Boston

STATE

July 15 Minisymposium on Lipid Disorders (sponsored by and held at the Knoxville Academy of Medicine, 422 Cumberland Ave., Knoxville) Credit 7 hours CME.

TMA Receives Membership Award



Dr. Clarence R. Sanders, TMA president (left), receives plaque in behalf of the Tennessee Medical Association from Dr. John Coury, chairman of the AMA Board of Trustees, congratulating the Tennessee Medical Association for increasing its membership in the American Medical Association for the eighth consecutive year.



SYNERCOM PRACTICE MANAGEMENT SYSTEM

Designed to Help Busy Doctors Manage Their Practices.

Synercom's Practice Management System is the complete solution to the information management problems inherent in modern medical practices. Its capabilities include:

- · Billing
- Collections
- Insurance Filing
- Management Reports

- Patient Recall
- Dictation and Typing
- Bookkeeping
- Investments
- Medical Records
- Research and Publishing

Call or write today for more information on our Practice Management System. Synercom provides consulting services. We'll gladly analyze the needs of your practice or clinic and, at no obligation, provide a written proposal defining a solution to your practice management problems. Call 615-292-2718 or fill out the section below and mail to:

Synercom Health Care Systems 2200 Hillsboro Road Nashville, TN 37212



2200 Hillsboro Road Nashville, TN 37212 615-292-2718

	Please send more information, including uidelines on selecting an office computer	Name:
System.		Phone:
	Please call me. I'd like to arrange a personal tion. The best time to call is	Practice:
		Office Manager:
NEC	The SYNERCOM Practice Management	
AND ME NEC Information Systems in:	System utilizes the Astra line of computer hardware from NEC, a world leader in office automation.	Address:
NEC Information Systems Inc	leader in office automation.	City:
	The Practice Management System is a	State. 7in

Highlights of the TMA Board of Trustees Meetings April 10 and April 13, 1985

The following is a summary of the major actions taken by the Board of Trustees of the Tennessee Medical Association at the first session of its regular second quarter meeting in Memphis on April 10, 1985.

THE BOARD:

Finalized Committee Appointments (See complete listing of committee appointments published elsewhere in this issue.)

JUA Status Report

Received a report that the JUA Board has decided to refund \$9 million to physician subscribers by June 1985. The remaining \$12 million will be returned subject to the outcome of litigation with the IRS.

SVMIC Report

Received a report that there will be a slight increase in premiums this year and a dividend of \$1.5 million declared by State Volunteer Mutual Insurance Company. SVMIC is planning to be in a position to insure physicians in HMOs and IPAs as well as physicians in private practice. SVMIC also plans to insure hospitals.

Impaired Physician Committee

Received a report from Dr. David Dodd, medical director, TMA Impaired Physician Committee, that the number of physicians who have been identified and have gone through treatment and are now back into active practice has doubled, and that approximately 1,800 lives have been positively affected by the Impaired Physician Program.

Ad Hoc Committee to Develop and Approve Appropriate List of Abbreviations Dr. Jack Farringer reported he had found a total of 3,306 abbreviations were being used in Vanderbilt, UT-Memphis, Baptist Memorial Hospital, Memphis, and VA Hospital in Memphis. Dr. Farringer stated the committee felt the real danger in this situation was the possibility of misunderstanding of the Order Sheet and the problem, if it could be corrected, would have to be done in the medical schools. It was the consensus of the Board that standardization was one of the most difficult things to deal with in medicine, as it is both a science and an art, but that the matter should be pursued and at least provide a list of suggested abbreviations for use. Dr. Farringer was also asked to write an editorial for publication in the *Journal*.

Mid-South Foundation for Medical Care

Dr. Thomas K. Ballard reported that the telephone problems which had been experienced in the past regarding pre-admission approval with Mid-South had been solved. He urged anyone having any comments, suggestions, etc. for Mid-South be given to him for conveyance at the Mid-South Foundation board meeting on Sunday. He stated Dr. John B. Hamsher, the medical director of Mid-South, was available and willing to speak to any of the medical societies or groups who wished.

Recommendation from Long-Term Health Care Committee Approved a recommendation to change the name of the Long-Term Health Care Committee to the Geriatrics Committee.

Board Positions on Resolutions

Discussed in detail and voted to adopt positions on resolutions to be submitted to the TMA House of Delegates.

Health Project Contest

Voted to discontinue the TMA Health Project Contest and asked the TMA Auxiliary to explore other avenues of public relations projects.

AMA Professional Liability Teleconference

Agreed to cosponsor a professional liability teleconference in conjunction with AMA in June.

Financial Statement

Approved the first quarter operating report.

Recognition of Retiring Board Members

Recognized Drs. Luthur A. Beazley, Jr., and Nat E. Hyder, Jr., for their service to TMA as members of the Board of Trustees.

The following is a summary of the major actions taken by the Board of Trustees of the Tennessee Medical Association at the second session of its regular second quarter meeting in Memphis on April 13, 1985.

THE BOARD:

Election Results

Elected Dr. John R. Nelson, Jr., Knoxville, as chairman of the Board of Trustees and Dr. Hugh Francis, Jr., Memphis, as vice chairman of the Board. Dr. Thurman L. Pedigo, McMinnville, was elected secretary-treasurer.

Elected as the Board's Executive Committee were Dr. Clarence R. Sanders, Gallatin, chairman; Thomas K. Ballard, Jackson; John R. Nelson, Jr., Knoxville; Thurman L. Pedigo, McMinnville; and James R. Royal, Chattanooga.

Elected as the Finance Committee of the Board were Drs. Thurman L. Pedigo, McMinnville, chairman; William F. Buchner, Chattanooga, and Hugh Francis, Jr., Memphis.

Impaired Physician Loan Fund Board

Named Drs. Charles B. Thorne, Nashville, William C. Anderson, Nashville, Howard W. Thomas, Savannah, Luthur A. Beazley, Jr., Nashville, and Thurman L. Pedigo, McMinnville, for a one-year term on the Board of Directors of the Impaired Physician Loan Fund.

Recommendation from Impaired Physician Committee

Referred a request for a \$1,000 per month salary increase for the medical director of the Impaired Physician Program to the Executive Committee for action, upon review of a written recommendation from the Impaired Physician Committee.

Major Medical Insurance Program

Gave approval to add the two additional benefits proposed for the comprehensive major health program as recommended by the Group Insurance Committee with instructions to the plan administrator to request in writing to Blue-Cross/Blue-Shield elimination of the three-day hospitalization requirement to qualify for benefits in an extended care facility.

Medicaid Drug Formulary

Approved the concept of mailing the Medicaid Drug Formulary to all physicians in the state periodically and that an announcement regarding this mailing from the state be made in the TMA newsletter.

AMA Representative

Dr. Harrison Rogers, president-elect of AMA, attended the Board meeting and spoke briefly regarding current issues and status of litigation with chiropractors. A request was made by Dr. Sanders that a copy of Dr. Thomison's editorial published in the *Journal* regarding membership in organized medicine be taken to the AMA Board. Dr. Rogers agreed to do so.

Chattanooga-Hamilton County Medical Society Public Relations Campaign

Drs. W.E. Rowe and R.E. Bowers of Chattanooga presented to the Board a summary of the public relations program recently developed by the Chattanooga-Hamilton County Medical Society. The program will be referred to the Communications and Public Service Committee for further study and recommendation to the Board for possible use by TMA statewide.

Resolution No. 7-85 "Public Image of Physicians"

Referred Resolution No. 7-85 to the Committee on Communications and Public Service for further study and requested a preliminary report be made at the July Board meeting.

Resolution No. 8-85 "DPT Immunization of Children"

Referred Resolution No. 8-85 to the Legislative Committee, with the Board's instruction that the committee urge the Tennessee General Assembly to support proposed legislation extending liability protection to manufacturers of DPT vaccine.

Resolution No. 1-85 "TMA Annual Meeting Format Change" Appointed an ad hoc committee to investigate this matter and make recommendations to the Board regarding possible changes in the TMA annual meeting format.

Report No. 16—Committee on Rural Health

Deferred recommendations of the Reference Committee regarding expansion of the number of annual Rural Health Conferences, until the July Board meeting, with instructions that staff provide cost estimates along with information from the chairman of the Rural Health Committee regarding the possibility of the cosponsoring organizations assisting TMA with the additional planning required, staffing, and/or assuming part of the increased costs.

JUNE, 1985 393

People who depend on telephones depend on ATS.



3128 Directors Row/Memphis, TN 38131/901-346-3001

ATS KEEPS YOU IN BUSINESS

COMPONENT SOCIETIES—1985-1986 OFFICERS

Tennessee Medical Association

Pres.—Frank L. Jayakody, M.D., Shelbyville Secy.—Carl Rogers, M.D. 103 Riverview Bldg., Shelbyville 37160

RENTON-HUMPHREYS

Pres.—Mark F. Hartley, M.D., Waverly Secy.—Arthur W. Walker, M.D. South Church St., Waverly 37185

Pres.-David L. McCroskey, M.D., Maryville Secy .- Marvin R. Beard. M.D. 2032 Chilhowee Medical Park, Maryville 37801

Pres .- John B. Standridge, M.D., Cleveland Secy.-Daniel B. Vance, M.D. 2301 N. Ocoee St., Cleveland 37311

BUFFALO RIVER VALLEY

Pres.-Rebecca C. McGee, M.D., Centerville Secy .- Parker D. Elrod, M.D. P.O. Box 277, Centerville 37033

CAMPBELL

Pres.—Burgin H. Wood, M.D., LaFollette Secy.—Lee J. Seargeant, M.D. P.O. Box 1381, LaFollette 37766

Pres.—Teodorico P. Cruz. Jr., M.D., Elizabethton Secy.—Jose D. DeMoya, M.D. 314 Rogosin Dr., Elizabethton 37643

CHATTANOOGA-HAMILTON

Pres.—William E. Rowe, M.D., Chattanooga Secy.—Thomas W. Currey, M.D., Chattanooga Chief Exec. Officer-Raymond Schklar 960 E. 3rd St., #313, Chattanooga 37403

Pres.—A. J. Garbarino. Jr., M.D., Newport Secy.—Michael T. Hood, M.D. P.O. Box 608. Newport 37821

Pres.—Braham D. Sethi, M.D., Manchester Secy.—Robert W. Ridley, M.D. 504 N. Jackson, Tullahoma 37388

Pres.—Jerald W. White, M.D., Brownsville Secy.—John L. Shaw, Jr., M.D. 7 Siesta Dr., Jackson 38301

CUMBERLAND

Pres.—James R. Barnawell, M.D., Crossville Secy.—Stanley L. Bise, M.D. 110 Hayes St., Crossville 38555

Pres.-Kenneth H. Abbott, II, M.D., Smithville Secy.-Melvin L. Blevins, M.D. P.O. Box 667. Smithville 37166

Pres.—Clyde E. Collins, M.D., Dickson Secy.—Venk Mani, M.D. 111 Highway 70 East, Dickson 37055

Pres.-B. F. Allred. M.D. Jamestown 38556

Pres.-Fletcher S. Stuart, M.D., Winchester Secy.—Thomas F. Zimmerman, M.D. Franklin Co. Med. Clinic. Winchester 37398

Pres.—Charles Burger, M.D., Pulaski Secy.—Anne M. Rasche, M.D. P.O. Box 593, Pulaski 38478

Pres.—Ronald A. Cole, M.D., Greeneville Secy.—Robert C. Diez d'Aux, M.D. 2 Spencer Square, Greeneville 37743

Pres.—Michael L. Smith, M.D., Savannah Secy.—John D. Lay, M.D. 2101 Wayne Road. Savannah 38372

HAWKINS

(No Report)

Pres.-John E. Neumann, M.D., Paris Secy.-Joe D. Mobley, Jr., M.D. P.O. Box 1089, Paris 38242

Pres .- E. M. Dudney, M.D., Gainesboro Secy.-Leroy F. Barden, III. M.D. P.O. Box 513, Gainesboro 38562

KNOXVILLE

Pres.-David G. Gerkin, M.D., Knoxville Secy.—Hugh C. Hyatt, M.D., Knoxville Exec. Secy .- Mrs. Jane Smith 422 W. Cumberland Ave., Knoxville 37902

Secy.—W. Robert Gronewald, M.D. 521 McFarland, Morristown 37814

Pres.-Jerry F. Qualls, M.D., Lawrenceburg Secy.-Alfred Turman, M.D. P.O. Box 40, Lawrenceburg 38464

Pres .- William M. Young, M.D., Fayetteville Secy.-R. T. Cobb. M.D. 207 S. Elk, Fayetteville 37334

MACON

(No Report)

MARSHALL (No Report)

Pres.-H. James Wiesman. M.D., Columbia Secy.-Thomas R. Duncan, M.D. Maury County Hospital, Columbia 38401

Pres.—Fred J. Ergen, M.D., Athens Secy.—William G. Morris, M.D. 503 W. Madison. Athens 37303

MEMPHIS-SHELBY

Pres.-Dee J. Canale, M.D., Memphis Secy .- Edgar R. Franklin. M.D.. Memphis Exec. Vice Pres.—(To be Named) 6264 Poplar, Memphis 38119

Pres.—Joshua S. Gettinger, M.D., Madisonville Secy.—James W. Ness, M.D. Tellico Plains 37385

Pres.-William J. Pedigo, M.D., Clarksville Secy.—Keith D. Peterson, M.D., Clarksville Exec. Secy.—Ms. Betty Swaffer Memorial Hospital, Clarksville 37040

NASHVILLE-DAVIDSON

Pres.-John B. Thomison, M.D., Nashville Secy.—Howard L. Salyer, M.D., Nashville Exec. Dir.—Ms. Margaret Click 205-23rd Ave. North, Nashville 37203

Pres.—Michael B. Ryan, M.D., Union City Secy.—Christopher A. Gooch, M.D. 188 Harper St., Troy 38260

Pres.-Larry M. Mason, Byrdstown Secy.-Michael T. Cox, M.D., Livingston Exec. Secy.—Ms. Joyce Thomas 315 Oak St., Livingston 38570

Pres.—Frederick J. Chapin, M.D., Cookeville Secy.—Donald W. Tansil, M.D. 585 N. Pickard Ave., Cookeville 38501

ROANE-ANDERSON

Pres.—Robert S. Dotson, M.D., Oak Ridge Secy.—James E. Chapman, M.D., Oak Ridge Exec. Secy.—Ms. Silvia Aliberti 207 W. Tennessee Ave., Oak Ridge 37830

Pres.—John B. Turner, M.D., Springfield Secy.—Gil Bazaldua, M.D. Main Street, Cross Plains 37049

RUTHERFORD/STONES RIVER

Pres.—Fred J. Myers, M.D., Woodbury Secy.—George S. Hester, M.D. 1004 N. Highland, Murfreesboro 37130

(No Report)

Pres.—Vincent B. Tolley, M.D., Sevierville Secy.—John C. Jacobs, Jr., M.D. Route 12, Sevierville 37862

Pres.—Steven E. Hawk, M.D., Carthage Secy.—Hugh E. Green, M.D. 622 Jackson Ave., Carthage 37030

SULLIVAN

Pres.-Fred Knickerbocker, M.D., Bristol Secy .- J. Larry Jayne, M.D., Bristol Exec. Secy.-Ms. Jan Hagy 350 Blountville Hwy., #205, Bristol 37620

Sery.—C. Norman Spencer, M.D., Gallatin Sery.—Halden W. Hooper, Sr., M.D.
P.O. Box 611, Gallatin 37066

Pres .- J. Barrett Matthews, M.D., Covington Secy.-James D. Witherington, M.D. 209 W. Pleasant, Covington 38019

Pres.—Alan W. Ackroyd, M.D., Rock Island Secy.—Oscar S. Spivey, M.D. River Park, #2, McMinnville 37110

WASHINGTON-UNICOI-JOHNSON

Pres.—H. Cowan Moss, Jr., M.D., Johnson City Secy.—David N. Freemon, M.D., Johnson City Exec. Secy.—Mrs. Beatrice Hudswell 400 State of Franklin Road, Johnson City 37601

Pres.—George T. Wall, M.D., Sparta Secy.—Robert W. Hoyt, Jr., M.D. Route 3. Sparta 38583

WILLIAMSON

Pres.—H. Bryant Savage, M.D., Franklin Secy.—Elliot Himmelfarb, M.D. P.O. Box 745, Franklin 37064

Pres.—Sam B. McFarland, M.D., Lebanon Secy.—Thomas R. Puryear, M.D. 239 E. Main St., Lebanon 37087

OFFICERS AND COMMITTEES 1984-85

Tennessee Medical Association

OFFICERS OF THE ASSOCIATION	COUNCILORS
President	First DistrictCharles E. Allen, M.D., Secretary—
President-Elect James R. Royal, M.D., Chattanooga	Johnson City
Vice President (East) Jacob T. Bradsher, Jr., M.D.,	Second DistrictJohn E. Kesterson, M.D., Knoxville
Knoxville Vice President (Middle) Randall Gary Samples, M.D.,	Third District Robert W. Myers, Sr., M.D., Chattanooga
Cookeville	Fourth District Will G. Quarles, Jr., M.D., Livingston Fifth District Sue P. W. Johnson, M.D., Shelbyville
Vice President (West)T. James Humphreys, M.D.,	Sixth District Howard L. Salyer, M.D., Nashville
Jackson	Seventh District Virgil H. Crowder, Jr., M.D., Chairman—
Secretary-TreasurerThurman L. Pedigo, M.D.,	Lawrenceburg Eighth District Montie E. Smith, Jr., M.D., Selmer
McMinnville Speaker—House of DelegatesMalcolm R. Lewis, M.D.,	Ninth District James H. Ragsdale, M.D., Union City
Nashville	Tenth District Dennis A. Higdon, M.D., Memphis
Vice Speaker—House of DelegatesF. Hammond Cole, Jr.,	DELEGATES TO THE AMERICAN MEDICAL ASSOCIATION
M.D., Memphis	
	Thomas K. Ballard, M.DJacksor John S. Derryberry, M.DShelbyville
BOARD OF TRUSTEES	Hamel B. Eason, M.D Memphis
Thomas K. Ballard, M.D	William O. Miller, M.D Knoxville
John S. Buchignani, M.D Memphis	John B. Thomison, M.D
William F. Buchner, M.D	David H. Turner, M.D
Jack Butterworth, JrBristol	The roof Tytor, or, with the months
F. Hammond Cole, Jr., M.D Memphis	ALTERNATE DELEGATES TO THE
Hugh Francis, Jr., M.D., Vice-Chairman Memphis	AMERICAN MEDICAL ASSOCIATION
Robert W. Ikard, M.D	Charles E. Allen, M.D
John R. Nelson, Jr., M.D., Chairman Knoxville	Hugh Francis, Jr., M.D. Memphis
Thurman L. Pedigo, M.D McMinnville	George W. Holcomb, Jr., M.D
James R. Royal, M.D	Nat E. Hyder, Jr., M.D Johnson City
Clarence R. Sanders, M.D	Thurman L. Pedigo, M.D
COMMITTEES OF THE	BOARD OF TRUSTEES
EXECUTIVE COMMITTEE Clarence R. Sanders, M.D., Chairman	COMMITTEE ON LONG RANGE PLANNING Thomas K. Ballard, M.D., Chairman
Thurman L. Pedigo, M.D	Clarence R. Sanders, M.D Gallatin
FINANCE COMMITTEE	TRAVEL COMMITTEE
Thurman L. Pedigo, M.D., Chairman McMinnville	
	Thomas K. Ballard, M.D., Chairman Jackson
William F. Buchner, M.D. Chattanooga Hugh Francis, Jr., M.D. Memphis	Clarence R. Sanders, M.D Gallatin
	Clarence R. Sanders, M.D Gallatin
Hugh Francis, Jr., M.D Memphis	Clarence R. Sanders, M.D
Hugh Francis, Jr., M.D. Memphis PUBLICATIONS COMMITTEE John B. Thomison, M.D., Chairman Nashville Oscar M. McCallum, M.D. Henderson	Clarence R. Sanders, M.D
Hugh Francis, Jr., M.D. Memphis PUBLICATIONS COMMITTEE John B. Thomison, M.D., Chairman. Nashville	Clarence R. Sanders, M.D
Hugh Francis, Jr., M.D. Memphis PUBLICATIONS COMMITTEE John B. Thomison, M.D., Chairman Nashville Oscar M. McCallum, M.D. Henderson	A. Roy Tyrer, Jr., M.D., Chairman Memphis Thomas K. Ballard, M.D. Jackson Allen S. Edmonson, M.D. Memphis George H. Wood, M.D. Knoxville
Hugh Francis, Jr., M.D. Memphis PUBLICATIONS COMMITTEE John B. Thomison, M.D., Chairman Nashville Oscar M. McCallum, M.D. Henderson Addison B. Scoville, Jr., M.D. Nashville	Clarence R. Sanders, M.D

STANDING COMMITTEES OF THE TENNESSEE MEDICAL ASSOCIATION

COMMITTEE ON CCIENTIEIC AEEAIDC	
COMMITTEE ON SCIENTIFIC AFFAIRS	Charles E. White, M.D Memphis
Oscar M. McCallum, M.D., Chairman Henderson	William B. Ralph, Jr., M.D
Sidney L. Bicknell, M.DJackson	Joseph C. Knight, M.D
Claude H. Crockett, Jr., M.DBristol	Jack P. Powell, M.D.NashvilleJohn B. Thomison, M.D. (Ex-Officio)Nashville
Winston P. Caine, M.D	Thurman L. Pedigo, M.D.
Ted W. Hill, M.D	(Div. Coordinator) McMinnville
John B. Thomison, M.D. (Ex-Officio) Nashville	,
William F. Buchner, M.D.	PEER REVIEW COMMITTEE
(Div. Coordinator)	George A. Zirkle, Jr., M.D., Chairman Knoxville
	George W. Holcolmb, Jr., M.D Nashville
COMMITTEE ON LEGISLATION	Nat E. Hyder, Jr., M.D Johnson City
James W. Hays, M.D., Chairman Nashville	Allen S. Edmonson, M.D
James C. Bradshaw, Jr., M.D Lebanon	Thomas K. Ballard, M.DJackson
Thurman L. Pedigo, M.D McMinnville	Paul R. Stumb, M.D. (Div. Coordinator) Nashville
Allen S. Edmonson, M.D	(Div. Coordinator)
Arden J. Butler, Jr., M.D	COMMITTEE ON HOSPITALS
Charles W. White, M.D Lexington James R. Royal, M.D Chattanooga	A. Roy Tyrer, Jr., M.D., Chairman Memphis
Theodore F. Haase, Jr., M.D Knoxville	William L. Moffatt, III, M.D
Nat E. Hyder, Jr., M.D Johnson City	M. F. Perrin, M.D Chattanooga
John B. Thomison, M.D. (Ex-Officio) Nashville	John A. Bollinger, Jr., M.D Maryville
Arden J. Butler, Jr., M.D.	Duane C. Budd, M.D Johnson City
(Div. Coordinator) Ripley	George R. Mayfield, Jr., M.D
Chairman of Four Metropolitan Societies'	William H. Hartmann, M.D
Legislative Committees	(Div. Coordinator)
H. Victor Braren, M.D Nashville	(======================================
James C. Fleming, M.D Memphis	INTERPROFESSIONAL LIAISON COMMITTEE
William O. Miller, M.D Knoxville	Thomas K. Ballard, M.D., Chairman Jackson
Joel E. Avery, M.D Chattanooga	James A. Moore, M.D Memphis
COMMITTEE ON GOVERNMENTAL MEDICAL SERVICES	John P. Nash, M.D. Memphis
	Joseph P. Moon, M.D
David H. Turner, M.D., Chairman Chattanooga Bergein F. Overholt, M.D Knoxville	Hays Mitchell, M.D
Jack E. Butterworth, Jr., M.D. Bristol	Melbourne K. Williams, M.D Nashville
Dee J. Canale, M.D Memphis	Henry P. Pendergrass, M.D
Dee J. Canale, M.D. Memphis Steven R. Kinney, M.D. Ripley	Henry P. Pendergrass, M.D
Steven R. Kinney, M.D	Charles E. Jordan, III, M.D Cookeville Thurman L. Pedigo, M.D.
Steven R. Kinney, M.D	Charles E. Jordan, III, M.D Cookeville
Steven R. Kinney, M.D. Ripley Oscar M. McCallum, M.D. Henderson Eugene W. Fowinkle, M.D. Nashville William F. Fleet, Jr., M.D. Goodlettsville	Charles E. Jordan, III, M.D
Steven R. Kinney, M.D. Ripley Oscar M. McCallum, M.D. Henderson Eugene W. Fowinkle, M.D. Nashville William F. Fleet, Jr., M.D. Goodlettsville Virgil H. Crowder, Jr., M.D. Lawrenceburg	Charles E. Jordan, III, M.D
Steven R. Kinney, M.D. Ripley Oscar M. McCallum, M.D. Henderson Eugene W. Fowinkle, M.D. Nashville William F. Fleet, Jr., M.D. Goodlettsville Virgil H. Crowder, Jr., M.D. Lawrenceburg Arden J. Butler, Jr., M.D.	Charles E. Jordan, III, M.D
Steven R. Kinney, M.D. Ripley Oscar M. McCallum, M.D. Henderson Eugene W. Fowinkle, M.D. Nashville William F. Fleet, Jr., M.D. Goodlettsville Virgil H. Crowder, Jr., M.D. Lawrenceburg	Charles E. Jordan, III, M.D
Steven R. Kinney, M.D. Ripley Oscar M. McCallum, M.D. Henderson Eugene W. Fowinkle, M.D. Nashville William F. Fleet, Jr., M.D. Goodlettsville Virgil H. Crowder, Jr., M.D. Lawrenceburg Arden J. Butler, Jr., M.D.	Charles E. Jordan, III, M.D
Steven R. Kinney, M.D. Ripley Oscar M. McCallum, M.D. Henderson Eugene W. Fowinkle, M.D. Nashville William F. Fleet, Jr., M.D. Goodlettsville Virgil H. Crowder, Jr., M.D. Lawrenceburg Arden J. Butler, Jr., M.D. (Div. Coordinator) Ripley COMMITTEE ON TMA GROUP INSURANCE	Charles E. Jordan, III, M.D. Cookeville Thurman L. Pedigo, M.D. (Div. Coordinator) McMinnville COMMITTEE ON CONTINUING MEDICAL EDUCATION John B. Thomison, M.D., Chairman. Nashville Dennis K. Wentz, M.D. Nashville Clifton K. Meador, M.D. Nashville Charles T. Womack, III, M.D. Cookeville Thomas K. Ballard, M.D. Jackson
Steven R. Kinney, M.D. Ripley Oscar M. McCallum, M.D. Henderson Eugene W. Fowinkle, M.D. Nashville William F. Fleet, Jr., M.D. Goodlettsville Virgil H. Crowder, Jr., M.D. Lawrenceburg Arden J. Butler, Jr., M.D. (Div. Coordinator) Ripley COMMITTEE ON TMA GROUP INSURANCE David R. Pickens, Jr., M.D., Chairman Nashville L. Dow Strader, Jr., M.D. Bristol	Charles E. Jordan, III, M.D. Cookeville Thurman L. Pedigo, M.D. (Div. Coordinator) McMinnville COMMITTEE ON CONTINUING MEDICAL EDUCATION John B. Thomison, M.D., Chairman. Nashville Dennis K. Wentz, M.D. Nashville Clifton K. Meador, M.D. Nashville Charles T. Womack, III, M.D. Cookeville Thomas K. Ballard, M.D. Jackson Daniel R. Ramey, III, M.D. Memphis
Steven R. Kinney, M.D. Ripley Oscar M. McCallum, M.D. Henderson Eugene W. Fowinkle, M.D. Nashville William F. Fleet, Jr., M.D. Goodlettsville Virgil H. Crowder, Jr., M.D. Lawrenceburg Arden J. Butler, Jr., M.D. (Div. Coordinator) Ripley COMMITTEE ON TMA GROUP INSURANCE David R. Pickens, Jr., M.D., Chairman Nashville L. Dow Strader, Jr., M.D. Bristol Phil E. Orpet, Jr., M.D. Memphis	Charles E. Jordan, III, M.D. Cookeville Thurman L. Pedigo, M.D. (Div. Coordinator) McMinnville COMMITTEE ON CONTINUING MEDICAL EDUCATION John B. Thomison, M.D., Chairman. Nashville Dennis K. Wentz, M.D. Nashville Clifton K. Meador, M.D. Nashville Charles T. Womack, III, M.D. Cookeville Thomas K. Ballard, M.D. Jackson Daniel R. Ramey, III, M.D. Memphis T. James Humphreys, M.D. Jackson
Steven R. Kinney, M.D. Ripley Oscar M. McCallum, M.D. Henderson Eugene W. Fowinkle, M.D. Nashville William F. Fleet, Jr., M.D. Goodlettsville Virgil H. Crowder, Jr., M.D. Lawrenceburg Arden J. Butler, Jr., M.D. (Div. Coordinator) Ripley COMMITTEE ON TMA GROUP INSURANCE David R. Pickens, Jr., M.D., Chairman Nashville L. Dow Strader, Jr., M.D. Bristol Phil E. Orpet, Jr., M.D. Memphis Paul R. Stumb, M.D.	Charles E. Jordan, III, M.D. Cookeville Thurman L. Pedigo, M.D. (Div. Coordinator) McMinnville COMMITTEE ON CONTINUING MEDICAL EDUCATION John B. Thomison, M.D., Chairman. Nashville Dennis K. Wentz, M.D. Nashville Clifton K. Meador, M.D. Nashville Charles T. Womack, III, M.D. Cookeville Thomas K. Ballard, M.D. Jackson Daniel R. Ramey, III, M.D. Memphis T. James Humphreys, M.D. Jackson William P. Grigsby, M.D. Kingsport
Steven R. Kinney, M.D. Ripley Oscar M. McCallum, M.D. Henderson Eugene W. Fowinkle, M.D. Nashville William F. Fleet, Jr., M.D. Goodlettsville Virgil H. Crowder, Jr., M.D. Lawrenceburg Arden J. Butler, Jr., M.D. (Div. Coordinator) Ripley COMMITTEE ON TMA GROUP INSURANCE David R. Pickens, Jr., M.D., Chairman Nashville L. Dow Strader, Jr., M.D. Bristol Phil E. Orpet, Jr., M.D. Memphis	Charles E. Jordan, III, M.D. Cookeville Thurman L. Pedigo, M.D. (Div. Coordinator) McMinnville COMMITTEE ON CONTINUING MEDICAL EDUCATION John B. Thomison, M.D., Chairman Nashville Dennis K. Wentz, M.D. Nashville Clifton K. Meador, M.D. Nashville Charles T. Womack, III, M.D. Cookeville Thomas K. Ballard, M.D. Jackson Daniel R. Ramey, III, M.D. Memphis T. James Humphreys, M.D. Jackson William P. Grigsby, M.D. Kingsport William D. Black, M.D. Knoxville
Steven R. Kinney, M.D. Ripley Oscar M. McCallum, M.D. Henderson Eugene W. Fowinkle, M.D. Nashville William F. Fleet, Jr., M.D. Goodlettsville Virgil H. Crowder, Jr., M.D. Lawrenceburg Arden J. Butler, Jr., M.D. (Div. Coordinator) Ripley COMMITTEE ON TMA GROUP INSURANCE David R. Pickens, Jr., M.D., Chairman Nashville L. Dow Strader, Jr., M.D. Bristol Phil E. Orpet, Jr., M.D. Memphis Paul R. Stumb, M.D. (Div. Coordinator) Nashville	Charles E. Jordan, III, M.D. Cookeville Thurman L. Pedigo, M.D. (Div. Coordinator) McMinnville COMMITTEE ON CONTINUING MEDICAL EDUCATION John B. Thomison, M.D., Chairman Nashville Dennis K. Wentz, M.D. Nashville Clifton K. Meador, M.D. Nashville Charles T. Womack, III, M.D. Cookeville Thomas K. Ballard, M.D. Jackson Daniel R. Ramey, III, M.D. Memphis T. James Humphreys, M.D. Jackson William P. Grigsby, M.D. Kingsport William D. Black, M.D. Knoxville Joseph A. Weinberg, M.D. Knoxville Winston Caine, Jr., M.D. Chattanooga
Steven R. Kinney, M.D. Ripley Oscar M. McCallum, M.D. Henderson Eugene W. Fowinkle, M.D. Nashville William F. Fleet, Jr., M.D. Goodlettsville Virgil H. Crowder, Jr., M.D. Lawrenceburg Arden J. Butler, Jr., M.D. (Div. Coordinator) Ripley COMMITTEE ON TMA GROUP INSURANCE David R. Pickens, Jr., M.D., Chairman Nashville L. Dow Strader, Jr., M.D. Bristol Phil E. Orpet, Jr., M.D. Memphis Paul R. Stumb, M.D. (Div. Coordinator) Nashville COMMITTEE ON CONSTITUTION AND BYLAWS	Charles E. Jordan, III, M.D. Cookeville Thurman L. Pedigo, M.D. (Div. Coordinator) McMinnville COMMITTEE ON CONTINUING MEDICAL EDUCATION John B. Thomison, M.D., Chairman Nashville Dennis K. Wentz, M.D. Nashville Clifton K. Meador, M.D. Nashville Charles T. Womack, III, M.D. Cookeville Thomas K. Ballard, M.D. Jackson Daniel R. Ramey, III, M.D. Memphis T. James Humphreys, M.D. Jackson William P. Grigsby, M.D. Kingsport William D. Black, M.D. Knoxville Joseph A. Weinberg, M.D. Knoxville Winston Caine, Jr., M.D. Chattanooga William F. Buchner, M.D. Chattanooga
Steven R. Kinney, M.D. Ripley Oscar M. McCallum, M.D. Henderson Eugene W. Fowinkle, M.D. Nashville William F. Fleet, Jr., M.D. Goodlettsville Virgil H. Crowder, Jr., M.D. Lawrenceburg Arden J. Butler, Jr., M.D. (Div. Coordinator) Ripley COMMITTEE ON TMA GROUP INSURANCE David R. Pickens, Jr., M.D., Chairman Nashville L. Dow Strader, Jr., M.D. Bristol Phil E. Orpet, Jr., M.D. Memphis Paul R. Stumb, M.D. (Div. Coordinator) Nashville COMMITTEE ON CONSTITUTION AND BYLAWS John H. Burkhart, M.D., Chairman Knoxville Robert H. Haralson, Jr., M.D. Maryville	Charles E. Jordan, III, M.D. Cookeville Thurman L. Pedigo, M.D. (Div. Coordinator) McMinnville COMMITTEE ON CONTINUING MEDICAL EDUCATION John B. Thomison, M.D., Chairman Nashville Dennis K. Wentz, M.D. Nashville Clifton K. Meador, M.D. Nashville Charles T. Womack, III, M.D. Cookeville Thomas K. Ballard, M.D. Jackson Daniel R. Ramey, III, M.D. Memphis T. James Humphreys, M.D. Jackson William P. Grigsby, M.D. Kingsport William D. Black, M.D. Knoxville Joseph A. Weinberg, M.D. Knoxville Winston Caine, Jr., M.D. Chattanooga William F. Buchner, M.D. Chattanooga Robert W. Ikard, M.D.
Steven R. Kinney, M.D	Charles E. Jordan, III, M.D. Cookeville Thurman L. Pedigo, M.D. (Div. Coordinator) McMinnville COMMITTEE ON CONTINUING MEDICAL EDUCATION John B. Thomison, M.D., Chairman Nashville Dennis K. Wentz, M.D. Nashville Clifton K. Meador, M.D. Nashville Charles T. Womack, III, M.D. Cookeville Thomas K. Ballard, M.D. Jackson Daniel R. Ramey, III, M.D. Memphis T. James Humphreys, M.D. Jackson William P. Grigsby, M.D. Kingsport William D. Black, M.D. Knoxville Joseph A. Weinberg, M.D. Knoxville Winston Caine, Jr., M.D. Chattanooga William F. Buchner, M.D. Chattanooga
Steven R. Kinney, M.D	Charles E. Jordan, III, M.D. Cookeville Thurman L. Pedigo, M.D. (Div. Coordinator) McMinnville COMMITTEE ON CONTINUING MEDICAL EDUCATION John B. Thomison, M.D., Chairman Nashville Dennis K. Wentz, M.D. Nashville Clifton K. Meador, M.D. Nashville Charles T. Womack, III, M.D. Cookeville Thomas K. Ballard, M.D. Jackson Daniel R. Ramey, III, M.D. Memphis T. James Humphreys, M.D. Jackson William P. Grigsby, M.D. Kingsport William D. Black, M.D. Knoxville Joseph A. Weinberg, M.D. Knoxville Winston Caine, Jr., M.D. Chattanooga William F. Buchner, M.D. Chattanooga Robert W. Ikard, M.D.
Steven R. Kinney, M.D	Charles E. Jordan, III, M.D. Cookeville Thurman L. Pedigo, M.D. (Div. Coordinator) McMinnville COMMITTEE ON CONTINUING MEDICAL EDUCATION John B. Thomison, M.D., Chairman Nashville Dennis K. Wentz, M.D. Nashville Clifton K. Meador, M.D. Nashville Charles T. Womack, III, M.D. Cookeville Thomas K. Ballard, M.D. Jackson Daniel R. Ramey, III, M.D. Memphis T. James Humphreys, M.D. Jackson William P. Grigsby, M.D. Kingsport William D. Black, M.D. Knoxville Joseph A. Weinberg, M.D. Knoxville Winston Caine, Jr., M.D. Chattanooga William F. Buchner, M.D. Chattanooga Robert W. Ikard, M.D. (Div. Coordinator) Nashville Representatives of Medical Schools and Clinical Education Centers
Steven R. Kinney, M.D	Charles E. Jordan, III, M.D. Cookeville Thurman L. Pedigo, M.D. (Div. Coordinator) McMinnville COMMITTEE ON CONTINUING MEDICAL EDUCATION John B. Thomison, M.D., Chairman Nashville Dennis K. Wentz, M.D. Nashville Clifton K. Meador, M.D. Nashville Charles T. Womack, III, M.D. Cookeville Thomas K. Ballard, M.D. Jackson Daniel R. Ramey, III, M.D. Memphis T. James Humphreys, M.D. Jackson William P. Grigsby, M.D. Kingsport William D. Black, M.D. Knoxville Joseph A. Weinberg, M.D. Knoxville Winston Caine, Jr., M.D. Chattanooga William F. Buchner, M.D. Chattanooga Robert W. Ikard, M.D. (Div. Coordinator) Nashville Representatives of Medical Schools and Clinical Education Centers Richard L. Whittaker, M.D.—UTCEC, Knoxville
Steven R. Kinney, M.D. Ripley Oscar M. McCallum, M.D. Henderson Eugene W. Fowinkle, M.D. Nashville William F. Fleet, Jr., M.D. Goodlettsville Virgil H. Crowder, Jr., M.D. Lawrenceburg Arden J. Butler, Jr., M.D. (Div. Coordinator) Ripley COMMITTEE ON TMA GROUP INSURANCE David R. Pickens, Jr., M.D., Chairman Nashville L. Dow Strader, Jr., M.D. Bristol Phil E. Orpet, Jr., M.D. Memphis Paul R. Stumb, M.D. (Div. Coordinator) Nashville COMMITTEE ON CONSTITUTION AND BYLAWS John H. Burkhart, M.D., Chairman Knoxville Robert H. Haralson, Jr., M.D. Maryville Henry P. Pendergrass, M.D. Nashville David R. Yates, M.D. Donelson Francis H. Cole, M.D. Memphis C. Eugene Jabbour, M.D. Memphis	Charles E. Jordan, III, M.D. Cookeville Thurman L. Pedigo, M.D. (Div. Coordinator) McMinnville COMMITTEE ON CONTINUING MEDICAL EDUCATION John B. Thomison, M.D., Chairman Nashville Dennis K. Wentz, M.D. Nashville Clifton K. Meador, M.D. Nashville Charles T. Womack, III, M.D. Cookeville Thomas K. Ballard, M.D. Jackson Daniel R. Ramey, III, M.D. Memphis T. James Humphreys, M.D. Jackson William P. Grigsby, M.D. Kingsport William D. Black, M.D. Knoxville Joseph A. Weinberg, M.D. Knoxville Winston Caine, Jr., M.D. Chattanooga William F. Buchner, M.D. Chattanooga Robert W. Ikard, M.D. (Div. Coordinator) Nashville Representatives of Medical Schools and Clinical Education Centers Richard L. Whittaker, M.D.—UTCEC, Knoxville James H. Donnell, M.D.—UTCEC, Jackson
Steven R. Kinney, M.D	Charles E. Jordan, III, M.D. Cookeville Thurman L. Pedigo, M.D. (Div. Coordinator) McMinnville COMMITTEE ON CONTINUING MEDICAL EDUCATION John B. Thomison, M.D., Chairman Nashville Dennis K. Wentz, M.D. Nashville Clifton K. Meador, M.D. Nashville Charles T. Womack, III, M.D. Cookeville Thomas K. Ballard, M.D. Jackson Daniel R. Ramey, III, M.D. Memphis T. James Humphreys, M.D. Jackson William P. Grigsby, M.D. Kingsport William D. Black, M.D. Knoxville Joseph A. Weinberg, M.D. Knoxville Winston Caine, Jr., M.D. Chattanooga William F. Buchner, M.D. Chattanooga Robert W. Ikard, M.D. (Div. Coordinator) Nashville Representatives of Medical Schools and Clinical Education Centers Richard L. Whittaker, M.D.—UTCEC, Knoxville James H. Donnell, M.D.—UTCEC, Jackson E. William Rosenberg, M.D.—UTCHS, Memphis
Steven R. Kinney, M.D	Charles E. Jordan, III, M.D. Cookeville Thurman L. Pedigo, M.D. (Div. Coordinator) McMinnville COMMITTEE ON CONTINUING MEDICAL EDUCATION John B. Thomison, M.D., Chairman Nashville Dennis K. Wentz, M.D. Nashville Clifton K. Meador, M.D. Nashville Charles T. Womack, III, M.D. Cookeville Thomas K. Ballard, M.D. Jackson Daniel R. Ramey, III, M.D. Memphis T. James Humphreys, M.D. Jackson William P. Grigsby, M.D. Kingsport William D. Black, M.D. Knoxville Joseph A. Weinberg, M.D. Knoxville Winston Caine, Jr., M.D. Chattanooga William F. Buchner, M.D. Chattanooga Robert W. Ikard, M.D. (Div. Coordinator) Nashville Representatives of Medical Schools and Clinical Education Centers Richard L. Whittaker, M.D.—UTCEC, Knoxville James H. Donnell, M.D.—UTCEC, Jackson E. William Rosenberg, M.D.—UTCHS, Memphis Floyd B. Goffin, M.D.—East Tennessee State
Steven R. Kinney, M.D. Ripley Oscar M. McCallum, M.D. Henderson Eugene W. Fowinkle, M.D. Nashville William F. Fleet, Jr., M.D. Goodlettsville Virgil H. Crowder, Jr., M.D. Lawrenceburg Arden J. Butler, Jr., M.D. (Div. Coordinator) Ripley COMMITTEE ON TMA GROUP INSURANCE David R. Pickens, Jr., M.D., Chairman Nashville L. Dow Strader, Jr., M.D. Memphis Paul R. Stumb, M.D. (Div. Coordinator) Nashville COMMITTEE ON CONSTITUTION AND BYLAWS John H. Burkhart, M.D., Chairman Knoxville Robert H. Haralson, Jr., M.D. Maryville Henry P. Pendergrass, M.D. Nashville David R. Yates, M.D. Donelson Francis H. Cole, M.D. Memphis C. Eugene Jabbour, M.D. Memphis C. Eugene Jabbour, M.D. Memphis C. Hordinan Chattanooga D. L. Metcalf, III, M.D. Greeneville Robert M. Overholt, M.D. Knoxville	Charles E. Jordan, III, M.D. Cookeville Thurman L. Pedigo, M.D. (Div. Coordinator) McMinnville COMMITTEE ON CONTINUING MEDICAL EDUCATION John B. Thomison, M.D., Chairman Nashville Dennis K. Wentz, M.D. Nashville Clifton K. Meador, M.D. Nashville Charles T. Womack, III, M.D. Cookeville Thomas K. Ballard, M.D. Jackson Daniel R. Ramey, III, M.D. Memphis T. James Humphreys, M.D. Jackson William P. Grigsby, M.D. Kingsport William D. Black, M.D. Knoxville Joseph A. Weinberg, M.D. Knoxville Winston Caine, Jr., M.D. Chattanooga William F. Buchner, M.D. Chattanooga Robert W. Ikard, M.D. (Div. Coordinator) Nashville Representatives of Medical Schools and Clinical Education Centers Richard L. Whittaker, M.D.—UTCEC, Knoxville James H. Donnell, M.D.—UTCEC, Jackson E. William Rosenberg, M.D.—UTCHS, Memphis
Steven R. Kinney, M.D	Charles E. Jordan, III, M.D. Cookeville Thurman L. Pedigo, M.D. (Div. Coordinator) McMinnville COMMITTEE ON CONTINUING MEDICAL EDUCATION John B. Thomison, M.D., Chairman Nashville Dennis K. Wentz, M.D. Nashville Clifton K. Meador, M.D. Nashville Charles T. Womack, III, M.D. Cookeville Thomas K. Ballard, M.D. Jackson Daniel R. Ramey, III, M.D. Memphis T. James Humphreys, M.D. Jackson William P. Grigsby, M.D. Kingsport William D. Black, M.D. Knoxville Joseph A. Weinberg, M.D. Knoxville Winston Caine, Jr., M.D. Chattanooga William F. Buchner, M.D. Chattanooga Robert W. Ikard, M.D. (Div. Coordinator) Nashville Representatives of Medical Schools and Clinical Education Centers Richard L. Whittaker, M.D.—UTCEC, Knoxville James H. Donnell, M.D.—UTCEC, Jackson E. William Rosenberg, M.D.—UTCHS, Memphis Floyd B. Goffin, M.D.—East Tennessee State University Medical School, Johnson City

JUNE, 1985

SPECIAL COMMITTEES OF THE TENNESSEE MEDICAL ASSOCIATION

COMMITTEE ON OCCUPATIONAL HEALTH—STANDBY	Daniel J. Scott, Jr., M.D Memphi
	Robert C. Reeder, M.D. Memphi
James J. Lawson, M.D., <i>Chairman</i> New Johnsonville William F. Buchner, M.D.	Fenwick W. Chappell, M.D Memphi
(Div. Coordinator) Chattanooga	James T. Craig, Jr., M.D
(Div. Coordinator) Chattanooga	R. Benton Adkins, M.D
LIAISON COMMITTEE TO MEDICAL SCHOOLS	Jack P. Powell, M.D Nashville
IN TENNESSEE—STANDBY	Stephen Schillig, M.D
	William F. Buchner, M.D.
John L. Sawyers, M.D., Chairman Nashville	(Div. Coordinator) Chattanooga
Robert W. Ikard, M.D. (Div. Coordinator) Nashville	
(Div. Coordinator) Nashvine	ADVISORY COMMITTEE TO THE TMA AUXILIARY
COMMITTEE ON DESIGNATION OF MIDDLY	Jacob T. Bradsher, M.D., Chairman Knoxville
COMMITTEE ON REHABILITATION—STANDBY	William F. Buchner, M.D
Robert E. Tooms, M.D., Chairman Memphis	Kent Kyger, M.D
William F. Buchner, M.D.	Rex A. Amonette, M.D Memphi
(Div. Coordinator) Chattanooga	Thurman L. Pedigo, M.D.
	(Div. Coordinator) McMinnville
COMMITTEE ON BLOOD BANKS AND MEDICAL LABORATORIES	
William H. Hartmann, M.D., Chairman Nashville	COMMITTEE ON MENTAL HEALTH
Augustus L. Middleton, M.DJackson	Kent Kyger, M.D., Chairman Nashville
Michael L. Smith, M.DSavannah	Lloyd C. Elam, M.D
John R. Hilsenbeck, Jr., M.D	Henry B. Brackin, Jr., M.D Nashville
R. Glenn Hall, M.D Cookeville	Frederick J. Chapin, M.D Cookeville
Francis S. Jones, M.D	Robert T. Spaulding, M.D Chattanooga
William F. Buchner, M.D.	William C. Greer, M.D Chattanooga
(Div. Coordinator) Chattanooga	Marshall D. Hogan, Jr., M.D Kingspor
(Kenneth B. Carpenter, M.D Knoxville
COMMITTEE ON RURAL HEALTH	Harold M. West, M.D Memphi
F. Houston Lowry, M.D., <i>Chairman</i> Madisonville	C. Leon McGahee, M.D. Bristo Harris L. Smith, M.D. Jackson
Joseph L. Willoughby, M.DFranklin	William F. Buchner, M.D.
Melvin L. Blevins, M.D Smithville	(Div. Coordinator)
Jerry L. Shipley, M.DLivingston	(Div. Cooldinator) Chattanoog
Lester F. Littell, M.D	Consultant
John S. Burrell, M.DLake City	Rick Sively—Commissioner, Tennessee Department
Joe D. Mobley, Jr., M.D Paris	of Mental Health and Mental Rehabilitation
Hobart H. Beale, M.DMartin	01 1/10/100 1 1 1 1 1 1 1 1 1 1 1 1 1 1
John D. Lay, M.DSavannah	COMMITTEE ON MEDICINE AND RELIGION
Thornton E. Bryan, M.D Memphis	
Thurman L. Pedigo, M.D.	Alfred P. Rogers, M.D., Chairman Chattanooga
(Div. Coordinator) McMinnville	John J. Ingram, III, M.D
Consultants	Ted W. Hill, M.D
	Lee Rush, Jr., M.D. Somerville
Hyram Kitchen, D.V.M., Ph.D.—Dean, UT College of Veterinary Medicine, Knoxville	C. Radford Andrews, M.D Memphis
M. Lloyd Downen, Ph.D.—UT Agricultural Extension	Robert P. N. Shearin, M.D Memphis
Service, Knoxville	James H. Donnell, M.D Jackson
Kenneth Cherry—Tennessee Rural Health	M. David Stockton, M.DSewanee
Improvement Association, Columbia	Thurman L. Pedigo, M.D.
	(Div. Coordinator) McMinnville
COMMITTEE ON EMERGENCY MEDICAL SERVICES	
James C. Prose, M.D., Chairman Knoxville	COMMITTEE ON MATERNAL AND CHILD CARE
C. Robert Clark, M.D	Robert R. Young, M.D., Chairman Union City
R. Phillip Burns, M.D	Herbert A. Taylor, III, M.D Memphis
James H. Creel, Jr., M.D Chattanooga	Patrick J. Sweeney, M.D Memphis
Jan A. DeWitt, M.D Johnson City	Bruce E. Walker, M.D Knoxville
Calvin V. Morgan, Jr., M.D Johnson City	Lewis F. Cosby, Jr., M.D
Paul E. Spray, M.DOak Ridge	Samuel S. Binder, M.D
Fred R. Knickerbocker, M.D. Bristol	Joseph V. Lavecchia, Jr., M.D
H. Trent Vandergriff, M.D Maryville	R. Gary Samples, M.D
James L. Allen, M.D	James C. Hudgins, Jr., M.D Lawrenceburg
William D. Falvey, M.D	Anne U. Bolner, M.D Fayetteville
Loren A. Crown, M.D Memphis	William F. Buchner, M.D.
Phillip E. Wright, II, M.D Memphis	(Div. Coordinator)
*	

Maternal Mortality Subcommittee
Larry T. Arnold, M.D., Chairman Nashville
James H. Growden, Jr., M.D Nashville
James C. Hudgins, M.DLawrenceburg
B. J. Smith, M.D Dicksor
A. J. Mueller, M.DJacksor
William P. Stepp, Jr., M.DJacksor
James S. Bell, M.D Memphis
Robert L. Harrington, M.D Dyersburg
Stephen C. Prinz, M.D Knoxville
Thomas R. Traylor, M.D Knoxville
Frank H. Boehm, M.D. (Consultant) Nashville
William F Buchner M D
(Div. Coordinator) Chattanooga
GERIATRICS COMMITTEE
77 111
James A. Greene, M.D., Chairman
James A. Greene, M.D., Chairman. Knoxville Eugene W. Fowinkle, M.D. Nashville
Eugene W. Fowinkle, M.D Nashville
Eugene W. Fowinkle, M.D Nashville Joseph L. Willoughby, M.D Franklin
Eugene W. Fowinkle, M.D. Nashville Joseph L. Willoughby, M.D. Franklin Richard G. Lane, M.D. Franklin M. F. Langston, M.D. Signal Mountain
Eugene W. Fowinkle, M.D. Nashville Joseph L. Willoughby, M.D. Franklin Richard G. Lane, M.D. Franklin M. F. Langston, M.D. Signal Mountain Ira S. Pierce, Jr., M.D. Knoxville
Eugene W. Fowinkle, M.D. Nashville Joseph L. Willoughby, M.D. Franklin Richard G. Lane, M.D. Franklin M. F. Langston, M.D. Signal Mountain Ira S. Pierce, Jr., M.D. Knoxville John T. Moore, Jr., M.D. Algood
Eugene W. Fowinkle, M.D. Nashville Joseph L. Willoughby, M.D. Franklir Richard G. Lane, M.D. Franklir M. F. Langston, M.D. Signal Mountain Ira S. Pierce, Jr., M.D. Knoxville John T. Moore, Jr., M.D. Algood Robert T. Tucker, M.D. Jackson
Eugene W. Fowinkle, M.D. Nashville Joseph L. Willoughby, M.D. Franklir Richard G. Lane, M.D. Franklir M. F. Langston, M.D. Signal Mountain Ira S. Pierce, Jr., M.D. Knoxville John T. Moore, Jr., M.D. Algood Robert T. Tucker, M.D. Jackson
Eugene W. Fowinkle, M.D. Nashville Joseph L. Willoughby, M.D. Franklir Richard G. Lane, M.D. Signal Mountair M. F. Langston, M.D. Signal Mountair Ira S. Pierce, Jr., M.D. Knoxville John T. Moore, Jr., M.D. Algood Robert T. Tucker, M.D. Jackson Charles L. Clarke, M.D. Memphis William F. Buchner, M.D.
Eugene W. Fowinkle, M.D. Nashville Joseph L. Willoughby, M.D. Franklir Richard G. Lane, M.D. Franklir M. F. Langston, M.D. Signal Mountair Ira S. Pierce, Jr., M.D. Knoxville John T. Moore, Jr., M.D. Algood Robert T. Tucker, M.D. Jacksor Charles L. Clarke, M.D. Memphis
Eugene W. Fowinkle, M.D. Nashville Joseph L. Willoughby, M.D. Franklir Richard G. Lane, M.D. Signal Mountair M. F. Langston, M.D. Signal Mountair Ira S. Pierce, Jr., M.D. Knoxville John T. Moore, Jr., M.D. Algood Robert T. Tucker, M.D. Jackson Charles L. Clarke, M.D. Memphis William F. Buchner, M.D.
Eugene W. Fowinkle, M.D. Nashville Joseph L. Willoughby, M.D. Franklir Richard G. Lane, M.D. Signal Mountair M. F. Langston, M.D. Signal Mountair Ira S. Pierce, Jr., M.D. Knoxville John T. Moore, Jr., M.D. Algood Robert T. Tucker, M.D. Jackson Charles L. Clarke, M.D. Memphis William F. Buchner, M.D.
Eugene W. Fowinkle, M.D. Nashville Joseph L. Willoughby, M.D. Franklir Richard G. Lane, M.D. Franklir M. F. Langston, M.D. Signal Mountair Ira S. Pierce, Jr., M.D. Knoxville John T. Moore, Jr., M.D. Algood Robert T. Tucker, M.D. Jacksor Charles L. Clarke, M.D. Memphis William F. Buchner, M.D. (Div. Coordinator) Chattanooga
Eugene W. Fowinkle, M.D. Nashville Joseph L. Willoughby, M.D. Franklir Richard G. Lane, M.D. Franklir M. F. Langston, M.D. Signal Mountair Ira S. Pierce, Jr., M.D. Knoxville John T. Moore, Jr., M.D. Algood Robert T. Tucker, M.D. Jacksor Charles L. Clarke, M.D. Memphis William F. Buchner, M.D. (Div. Coordinator) Chattanooga Consultant
Eugene W. Fowinkle, M.D. Nashville Joseph L. Willoughby, M.D. Franklir Richard G. Lane, M.D. Franklir M. F. Langston, M.D. Signal Mountair Ira S. Pierce, Jr., M.D. Knoxville John T. Moore, Jr., M.D. Algood Robert T. Tucker, M.D. Jacksor Charles L. Clarke, M.D. Memphis William F. Buchner, M.D. (Div. Coordinator) Chattanooga Consultant Richard Sadler—Executive Director, Tennessee Health Care

Nashville
Savannah
Memphis
Knoxville
Cnoxville
ttanooga
Knoxville
nson City
Nashville
Nashville

TENNESSEE MEDICAL ASSOCIATION STUDENT EDUCATION FUND

Board of Directors

John H. Burkhart, M.D., President Knoxville
Robert H. Haralson, Jr., M.D.,
Vice President Maryville
Robert L. Chalfant, M.D.,
Secretary-Treasurer Nashville
Charles E. Allen, M.D Johnson City
Allen S. Boyd, Jr., M.D Memphis
Patrick J. Murphy, M.D Memphis
Billy J. Allen, M.D Chattanooga
John R. Nelson, Jr., M.D. (Ex-Officio) Knoxville

William C. Anderson, M.D. Nashville Thomas B. Miller, M.D. Madison David T. Dodd, M.D. (Medical Director) Murfreesboro Mrs. John B. Turner (Auxiliary Rep.) Springfield William F. Buchner, M.D. (Div. Coordinator) Chattanooga
COMMITTEE ON HEALTH PLANNING
George H. Wood, M.D., Chairman. Knoxville Nat E. Hyder, Jr., M.D. Johnson City Jack E. Butterworth, Jr., M.D. Bristol C. Windom Kimsey, M.D. Chattanooga Oscar M. McCallum, M.D. Henderson Edward W. Reed, M.D. Memphis Rodger P. Lewis, M.D. Union City Ronald F. Overfield, M.D. Nashville Fredia S. Wadley, M.D. (Ex-Officio) Nashville Arden J. Butler, Jr., M.D. (Div. Coordinator) Ripley
PRIMARY HEALTH CARE CLINICS COMMITTEE
Hays Mitchell, M.D., Chairman. Cleveland James W. Hays, M.D. Nashville Norman L. Henderson, M.D. Lawrenceburg John O. Williams, M.D. Mt. Pleasant Alfred D. Beasley, M.D. Knoxville James H. Segars, M.D. Knoxville Hamel B. Eason, M.D. Memphis Paul R. Stumb, M.D. (Div. Coordinator) Nashville

Division Coordinators are members of the Board of Trustees assigned to oversee the activities of the respective committees.

INDEPENDENT MEDICINE'S POLITICAL **ACTION COMMITTEE—TENNESSEE**

Board of Directors

204	
First District	Nat E. Hyder, Jr., M.D.
	Johnson City
Second District	David G. Gerkin, M.D.,
	Knoxville
Third District	James R. Royal, M.D.
	Chattanooga, Chairman
Fourth District	Thurman L. Pedigo, M.D.,
	McMinnville
Fifth District	H. Victor Braren, M.D.
	Nashville
Sixth District	Clarence R. Sanders, M.D.
	Gallatin
Seventh District	Oscar M. McCallum, M.D.
	Henderson, Secretary-Treasurer
Eighth District	James T. Craig, Jr., M.D.,
	Jackson
Ninth District	Rex A. Amonette, M.D.
	Memphis
Representing the	
•	Mrs. Elliot H. Himmelfarb,
	Franklin

399 JUNE, 1985

TMA

continuing medical education opportunities

The continuing medical education accreditation program of the TMA has full approval by the Accreditation Council for Continuing Medical Education. An accredited institution or organization may designate for Category 1 credit toward the AMA Physician's Recognition Award those CME activities that meet appropriate guidelines. If you wish information as to how your hospital may receive accreditation, write: Director of Continuing Medical Education, Tennessee Medical Association, 112 Louise Ave., Nashville, TN 37203.

IMPORTANT NOTICE

Published in this section are all educational opportunities which come to our attention which might be of interest to our membership. As some of these are very long, full year schedules, and others are detailed descriptions of courses, in order to conserve space, most of them will be published in only one issue of the Journal.

IN TENNESSEE

VANDERBILT UNIVERSITY

Clinical Training Program

Opportunities for advanced clinical education for physicians in family practice and in various subspecialties have been developed by the School of Medicine and the Division of Continuing Education of Vanderbilt University. The practicing physician, with the guidance of the participating department chairman, can plan an individualized program of one to four weeks to meet recognized needs and interests. The experience will include contact with patients, discussion with clinical and academic faculty, conferences, ward rounds, learning individual procedures, observing new surgical techniques, and access to excellent library resources. Experience in more than one discipline may be included.

Participating Departments and Divisions

t ditterpating pepartition and a street
Allergy and Immunology Samuel Marney, M.D.
Anesthesiology Bradley E. Smith, M.D. Cardiology Gottlieb C. Friesinger, III, M.D. Chest Diseases Kenneth L. Brigham, M.D.
Cardiology Gottlieb C. Friesinger, III. M.D.
Chest Diseases Kenneth I. Brigham, M.D.
Clinical Pharmacology John A. Oates, M.D
Dermatology Lloyd E. King, M.D
Diabetes
Endocrinology
Getroenterology David N. Daway Dun, M.D.
Gastroenterology Dewey Dunn, M.D. General Internal Medicine A. W. Anderson Spickard, M.D.
General Internal Medicine
Hematology
Medicine John A. Oates, M.D.
Neurology Gerald M. Finichel, M.D.
Obstetrics and Gynecology Lonnie S. Burnett, M.D.
Oncology
Orthopedics
Pathology William H. Hartmann, M.D
Pediatrics
Preventive Medicine William Schaffner, M.D
Psychiatry Michael H. Ebert, M.D.
Radiology A. Everette James, Jr., Sc.M., J.D., M.D.
Computed Tomography Max I Shaff M D
Computed Tomography Max I Shaff M D
Radiology
Radiology A. Everette James, Jr., Sc.M., J.D., M.D. Computed Tomography Magnetic Resonance Imaging C. Leon Partain, M.D., Ph.D. Nuclear Medicine Martin P. Sandler, M.D.
Radiology A. Everette James, Jr., Sc. M., J.D., M.D. Computed Tomography. Max I. Shaff, M.D. Magnetic Resonance Imaging C. Leon Partain, M.D., Ph.D. Nuclear Medicine Martin P. Sandler, M.D. Ultrasound Arthur C. Fleischer, M.D.
Radiology A. Everette James, Jr., Sc. M., J.D., M.D Computed Tomography. Max I. Shaff, M.D Magnetic Resonance Imaging C. Leon Partain, M.D., Ph.D Nuclear Medicine. Martin P. Sandler, M.D Ultrasound Arthur C. Fleischer, M.D Renal Diseases Richard L. Gibson, M.D
Radiology A. Everette James, Jr., Sc. M., J.D., M.D Computed Tomography. Max I. Shaff, M.D Magnetic Resonance Imaging C. Leon Partain, M.D., Ph.D Nuclear Medicine. Martin P. Sandler, M.D Ultrasound Arthur C. Fleischer, M.D Renal Diseases Richard L. Gibson, M.D Rheumatology Theodore Pincus, M.D
Radiology A. Everette James, Jr., Sc. M., J.D., M.D. Computed Tomography. Max I. Shaff, M.D. Magnetic Resonance Imaging C. Leon Partain, M.D., Ph.D. Nuclear Medicine Martin P. Sandler, M.D. Ultrasound Arthur C. Fleischer, M.D. Renal Diseases Richard L. Gibson, M.D. Rheumatology Theodore Pincus, M.D. Surgery
Radiology A. Everette James, Jr., Sc. M., J.D., M.D. Computed Tomography. Max I. Shaff, M.D. Magnetic Resonance Imaging C. Leon Partain, M.D., Ph.D. Nuclear Medicine Martin P. Sandler, M.D. Ultrasound Arthur C. Fleischer, M.D. Renal Diseases Richard L. Gibson, M.D. Rheumatology Theodore Pincus, M.D. Surgery Cancer Chemotherapy. Vernon H. Reynolds, M.D.
Radiology A. Everette James, Jr., Sc. M., J.D., M.D. Computed Tomography. Max I. Shaff, M.D. Magnetic Resonance Imaging. C. Leon Partain, M.D., Ph.D. Nuclear Medicine. Martin P. Sandler, M.D. Ultrasound. Arthur C. Fleischer, M.D. Renal Diseases. Richard L. Gibson, M.D. Rheumatology. Theodore Pincus, M.D. Surgery Cancer Chemotherapy. Vernon H. Reynolds. M.D. General. John L. Sawyers, M.D.
Radiology A. Everette James, Jr., Sc. M., J.D., M.D. Computed Tomography. Max I. Shaff, M.D. Magnetic Resonance Imaging C. Leon Partain, M.D., Ph.D. Nuclear Medicine Martin P. Sandler, M.D. Ultrasound Arthur C. Fleischer, M.D. Renal Diseases Richard L. Gibson, M.D. Rheumatology Theodore Pincus, M.D. Surgery Cancer Chemotherapy. Vernon H. Reynolds, M.D. General John L. Sawyers, M.D. Neurological George Allen, M.D.
Radiology A. Everette James, Jr., Sc. M., J.D., M.D. Computed Tomography. Max I. Shaff, M.D. Magnetic Resonance Imaging C. Leon Partain, M.D., Ph.D. Nuclear Medicine Martin P. Sandler, M.D. Ultrasound Arthur C. Fleischer, M.D. Renal Diseases Richard L. Gibson, M.D. Rheumatology Theodore Pincus, M.D. Surgery Cancer Chemotherapy. Vernon H. Reynolds, M.D. General John L. Sawyers, M.D. Neurological George Allen, M.D. Ophthalmology James H. Elliott, M.D.
Radiology A. Everette James, Jr., Sc. M., J.D., M.D. Computed Tomography. Max I. Shaff, M.D. Magnetic Resonance Imaging. C. Leon Partain, M.D., Ph.D. Nuclear Medicine. Martin P. Sandler, M.D. Ultrasound. Arthur C. Fleischer, M.D. Renal Diseases. Richard L. Gibson, M.D. Rheumatology. Theodore Pincus, M.D. Surgery Cancer Chemotherapy. Vernon H. Reynolds, M.D. General. John L. Sawyers, M.D. Neurological George Allen, M.D. Ophthalmology. James H. Elliott, M.D. Oral. H. David Hall, D.M.D.
Radiology A. Everette James, Jr., Sc. M., J.D., M.D. Computed Tomography. Max I. Shaff, M.D. Magnetic Resonance Imaging C. Leon Partain, M.D., Ph.D. Nuclear Medicine Martin P. Sandler, M.D. Ultrasound Arthur C. Fleischer, M.D. Renal Diseases Richard L. Gibson, M.D. Rheumatology Theodore Pincus, M.D. Surgery Cancer Chemotherapy. Vernon H. Reynolds, M.D. General John L. Sawyers, M.D. Neurological George Allen, M.D. Ophthalmology James H. Elliott, M.D. Oral. H. David Hall, D.M.D. Otolaryngology Ronald Cate, M.D.
Radiology A. Everette James, Jr., Sc. M., J.D., M.D. Computed Tomography. Max I. Shaff, M.D. Magnetic Resonance Imaging. C. Leon Partain, M.D., Ph.D. Nuclear Medicine. Martin P. Sandler, M.D. Ultrasound. Arthur C. Pleischer, M.D. Renal Diseases. Richard L. Gibson, M.D. Rheumatology. Theodore Pincus, M.D. Surgery Cancer Chemotherapy. Vernon H. Reynolds, M.D. General. John L. Sawyers, M.D. Neurological George Allen, M.D. Ophthalmology. James H. Elliott, M.D. Oral. H. David Hall, D.M.D. Otolaryngology. Ronald Cate, M.D. Pediatric. Wallace W. Neblett, M.D.
Radiology A. Everette James, Jr., Sc. M., J.D., M.D. Computed Tomography. Max I. Shaff, M.D. Magnetic Resonance Imaging C. Leon Partain, M.D., Ph.D. Nuclear Medicine Martin P. Sandler, M.D. Ultrasound Arthur C. Fleischer, M.D. Renal Diseases Richard L. Gibson, M.D. Rheumatology Theodore Pincus, M.D. Surgery Cancer Chemotherapy. Vernon H. Reynolds, M.D. General John L. Sawyers, M.D. Neurological George Allen, M.D. Ophthalmology James H. Elliott, M.D. Oral. H. David Hall, D.M.D. Otolaryngology Ronald Cate, M.D. Pediatric Wallace W. Neblett, M.D. Plastic John B. Lynch, M.D.
Radiology A. Everette James, Jr., Sc. M., J.D., M.D. Computed Tomography. Max I. Shaff, M.D. Magnetic Resonance Imaging C. Leon Partain, M.D., Ph.D. Nuclear Medicine Martin P. Sandler, M.D. Ultrasound Arthur C. Fleischer, M.D. Renal Diseases Richard L. Gibson, M.D. Rheumatology Theodore Pincus, M.D. Surgery Cancer Chemotherapy. Vernon H. Reynolds, M.D. General John L. Sawyers, M.D. Neurological George Allen, M.D. Ophthalmology James H. Elliott, M.D. Oral. H. David Hall, D.M.D. Otolaryngology Ronald Cate, M.D. Pediatric Wallace W. Neblett, M.D. Plastic John B. Lynch, M.D. Renal Transplantation. Robert E. Richie, M.D.
Radiology A. Everette James, Jr., Sc. M., J.D., M.D. Computed Tomography. Max I. Shaff, M.D. Magnetic Resonance Imaging. C. Leon Partain, M.D., Ph.D. Nuclear Medicine. Martin P. Sandler, M.D. Ultrasound. Arthur C. Fleischer, M.D. Renal Diseases. Richard L. Gibson, M.D. Rheumatology. Theodore Pincus, M.D. Surgery Cancer Chemotherapy. Vernon H. Reynolds, M.D. General. John L. Sawyers, M.D. Neurological George Allen, M.D. Ophthalmology. James H. Elliott, M.D. Ophthalmology. Ronald Cate, M.D. Otolaryngology. Ronald Cate, M.D. Pediatric. Wallace W. Neblett, M.D. Plastic. John B. Lynch, M.D. Renal Transplantation. Robert E. Richie, M.D. H. Davice and Cardiac.
Radiology A. Everette James, Jr., Sc. M., J.D., M.D. Computed Tomography. Max I. Shaff, M.D. Magnetic Resonance Imaging C. Leon Partain, M.D., Ph.D. Nuclear Medicine Martin P. Sandler, M.D. Ultrasound Arthur C. Fleischer, M.D. Renal Diseases Richard L. Gibson, M.D. Rheumatology Theodore Pincus, M.D. Surgery Cancer Chemotherapy. Vernon H. Reynolds, M.D. General John L. Sawyers, M.D. Neurological George Allen, M.D. Ophthalmology James H. Elliott, M.D. Oral. H. David Hall, D.M.D. Otolaryngology Ronald Cate, M.D. Pediatric Wallace W. Neblett, M.D. Plastic John B. Lynch, M.D. Renal Transplantation. Robert E. Richie, M.D.

Eligibility: All licensed physicians are eligible. Credit: AMA Physician's Recognition Award (Category 1) and AAFP Continuing Education Accreditation. Application: For information and application contact Continuing Medical Education, Vanderbilt School of Medicine, CCC-5316 MCN, Nashville, TN 37232, Tel. (615) 322-4030.

Continuing Education Schedule

July 15-19	Annual Symposium on Contemporary Clin-
	ical Neurology—Hilton Head Island, S.C.
July 18-20	7th Annual Bowman Gray Mountain Meet-
	ing—Asheville, N.C.
Aug. 1-3	Advances in Medical Imaging—Orlando,
	Fla.
Aug. 12-16	Effective Patient Teaching
Aug. 14-16	Annual Blood Banking Conference
Aug. 15-18	9th Annual Association of Academic Health
	Centers Continuing Education Conference
Aug. 23-24	Annual Sonography Symposium
Sept. 9-13	Internal Medicine Review
Sept. 19-20	Advances in Laboratory Medicine
Sept. 21	Anxiety Disorders
Sept. 26-27	Update in Hypertension and Congestive
•	Heart Failure
Oct. 17-19	Medical Alumni Reunion Annual Meeting,
	Scientific Sessions
Oct. 23-27	Pulmonary Diseases/Critical Care Medi-
	cine—Destin, Fla.
Dec. 6-7	High Risk Obstetrics Seminar and the
	Everett M. Clayton Memorial Lecture
Dec. 7-8	Update in Anesthesiology
	. 67

For information contact Division of Continuing Medical Education, Vanderbilt School of Medicine, CCC-5316 MCN, Nashville, TN 37232, Tel. (615) 322-4030.

MEHARRY MEDICAL COLLEGE

Extended Continuing Education Program

Arrangements have been made with the following services and departments in the medical school to allow practicing physicians to participate in that service's activities for a period of one to four weeks. This program provides an opportunity for physicians to study in depth for a specified period. The schedule of activities is individualized in response to the physician's request by the participating department. The experience includes conferences, ward rounds, audiovisual materials and contact with patients, residents and faculty.

Participating Departments

Anesthesiology	Mireille Lecorps, M.D John Arradondo, M.D.
Cardiology	John Thomas, M.D.
Cardiology	Joseph Hinds, M.D.
	Paul Alexander, M.D.
Chest Diseases	Joseph M. Stinson, M.D.
	Paul A. Talley, M.D.
Dermatology	
(rastroenterology	Ludwald O. P. Perry, M.D.
Canada de la constanta de la c	Buntwal M. Somayaji, M.D.
Hematology/Oncology	Robert S. Hardy, M.D.
Neurology	Calvin L. Calhoun, Sr., M.D.
· · ·	Gregory Samaras, M.D.
Obstetrics and Gynecology	Henry W. Foster, M.D.
Onhthalmology	Axel C. Hansen, M.D.



OWNED AND PUBLISHED BY THE ASSOCIATION

JULY, 1985 VOL. 78, NO. 7

Rupture of the Liver in Preeclampsia A Review and Report of Two Cases

PLEAS COPAS, M.D.; MICHAEL DYER, M.D. HOBART AKIN, M.D.; and EUGENE LINTON, M.D.

Of all the possible complications that might arise in preeclampsia, rupture of the liver is one of the most severe. Vesalius reported the first case of spontaneous rupture of the liver, but Abercrombie's case in 1844 was the first reported in pregnancy. Since that time approximately 125 cases have been reported, with a maternal mortality approaching 60%. The majority of cases have been associated with either preeclampsia or a hypertensive disorder of pregnancy in a multiparous patient. Few patients survive without early surgical intervention and massive blood replacement.

The following is a report of two additional cases and a discussion of the etiology, pathology, and recommended medical and surgical approaches to this life-threatening situation.

Case Reports

Case 1. A 30-year-old white woman, gravida 3, para 1, EDC Jan. 18, 1983, was admitted Jan. 14, 1983 in active labor. Her prenatal course had been uncomplicated, her last prenatal visit having been on Jan. 11, 1983. On admission her blood pressure was 140/80 mm Hg and the diastolic pressure increased to 100 mm Hg within the next hour. Two plus albuminuria was also noted. Intravenous magnesium sulfate stabilized the diastolic blood pressure at 90 mm Hg, but the patient complained of severe headache and epigastric dis-

comfort that subsided after several episodes of vomiting. Labor proceeded rapidly, with delivery by low forceps of a normal female infant with Apgar scores of 7 and 9 at one and five minutes respectively. Thirty minutes after delivery, the patient was found to be cyanotic with a systolic blood pressure of 30 mm Hg. Intravenous fluid administration was increased and the magnesium sulfate discontinued, with improvement in symptoms. Reexploration of the uterus failed to reveal lacerations or retained products. Laboratory data, including arterial blood gases and hematocrit, indicated normal blood gases but a hematocrit of 20%, which represented a dramatic drop from the admission hematocrit of 32.8%. Presented with the findings of preeclampsia, epigastric pain, and shock, a presumptive diagnosis of spontaneous rupture of the liver was made.

At surgery several large lacerations were found in the right lobe of the liver at its inferior margin, and several smaller lacerations in the left lobe. The capsule was stripped from the liver on its anterior-superior surface, but no hematoma was found beneath its surface. An omental patch was placed over the large rupture site, using Avitene and Surgicel, with a marked decrease in bleeding. The subhepatic space was drained and the patient placed in the intensive care unit. Because of anticipated renal failure, as well as the possibility of shock lung, appropriate consultation was obtained, but due to continued bleeding from the drainage sites, the patient was reexplored and the right hepatic artery was ligated and a cholecystectomy performed.

Postoperative complications included renal failure, adult respiratory distress syndrome, disseminated intravascular coagulation, and pneumonia. In spite of dialysis, massive blood replacement, and intensive antibiotic therapy, the patient died on lan 26

Autopsy disclosed a ruptured liver with a large subcapsular hematoma within the right hepatic lobe measuring 26 x 14 x 12 cm (Fig. 1), and upon sectioning both lobes showed areas of cholestasis and marked yellowish discoloration (Fig. 2). Microscopically, the liver revealed marked necrosis, most concentrated around the centrilobular areas, and marked bile stasis in the canuliculi and portal bile ducts. There was a mild lymphocytic infiltrate within the periportal areas, and occasional yeast-like organisms were observed within the Kupffer

JULY, 1985 419

From the Departments of Obstetrics and Gynecology, Pathology, and Surgery, University of Tennessee College of Medicine. Knoxville. Reprint requests to UT Memorial Research Center and Hospital. Physicians Office Building, 1928 Alcoa Hwy.. Knoxville, TN 37920 (Dr. Copas).

ECLAMPTIC LIVER RUPTURE/Copas

cells of the sinusoids. There was a subendocardial hemorrhage in the left ventricle of the heart, and pneumonia was present. The spleen, intestines, and kidneys had multiple infarcts. The terminal event was considered to be sepsis from *Enterobactor aerogenes* and *Cryptococcus neoformans*.

Case 2. A 28-year-old white woman, gravida 1, EDC July 7, 1981, was admitted on June 26 to her local hospital in early labor. Her prenatal course had been complicated by a urinary tract infection and preeclampsia. She had been treated with rest and sedation, with close office follow-up for the preeclampsia and appropriate antibiotic coverage for the urinary tract infection. On admission her blood pressure was elevated to 200/110 mm Hg; her reflexes were hyperactive, but decreased with magnesium sulfate therapy, and her blood pressure fell to 120/90 mm Hg within two hours. She was nauseated and vomiting, and complained of irregular abdominal cramps. Due to a continued decrease in her blood pressure and mental status the magnesium sulfate was discontinued; the fetal heart tones shortly thereafter became inaudible. Her initial laboratory results revealed a platelet count of 85,000/ cu mm.

With a presumptive diagnosis of abruptio placentae the patient was taken to surgery, where a stillborn male infant was delivered. A laceration of the liver measuring 2.5 x 4 cm was discovered in the right superior lobe. Since the laceration was not bleeding, and an intact clot was covering its surface, drainage tubes were placed to monitor bleeding and drain the hepatic space.

Postoperatively, oligo-anuria, disseminated intravascular coagulation (DIC), and adult respiratory distress ensued. Reexploration 24 hours after the cesarean section because of continued bleeding from drain sites disclosed enlargement of the liver laceration. The bleeding points were ligated and a tracheostomy was performed because of hemorrhage from the endotracheal tube. The patient was transferred to University Hospital because of anuria for renal dialysis. The DIC had persisted despite heparin therapy and transfusion with 27 units of blood and 30 units of platelets.

On admission to University Hospital the patient required vigorous pulmonary support that eventually necessitated positive end-expiratory pressure of 25 cm $\rm H_2O$. She was maintained on renal dialysis and aggressive antibiotic coverage for pneumonia and sepsis due to *Pseudomonas aeruginosa*. During her acute therapy she was further transfused with 28 units of blood and 15 units of platelets. Her nutrition was support-

ed with intravenous hyperalimentation. The DIC slowly resolved without further heparin.

After recovery of renal and pulmonary function, she had transient pituitary and adrenal insufficiency that responded to appropriate therapy, and she also required aggressive antihypertensive therapy. She was discharged on Sept. 7, 1981, ten weeks after her initial insult. Her subsequent course has been unremarkable except for persistent hypertension.

Discussion

Rupture of the liver is most often due to trauma.³ Spontaneous rupture is very rare, having been reported to occur one in 225,000 deliveries⁵; though its exact etiology is unknown, it is usually associated with toxemia of pregnancy, and sometimes with clotting disorders, abscesses, and carcinomas.⁶

Most cases associated with toxemia reveal a subcapsular hematoma on the anterior-superior surface, with rupture at the anterior-inferior margin of the right lobe,³ as in our cases. The majority of patients are older multigravidas with preeclampsia or eclampsia,⁷ which is somewhat confusing, since toxemia is usually seen in young primigravidas.⁸ Rupture has been reported in chronic hypertensives and diabetics,⁵ but since these patients were older multigravidas, superimposed toxemia may have been present.

The clinical picture has been fairly uniform, beginning with epigastric pain that may radiate to the back. Tenderness may or may not be present, and hepatomegaly is occasionally noted. Symptoms may be present for days prior to rupture, but only rarely has the correct diagnosis been made preoperatively. Severe toxemia is almost uniformly present. After shock ensues, most patients go to surgery with a diagnosis of abrup-



Figure 1. Large subcapsular hematoma extending from the superior surface of the right lobe to the inferior edge.



Figure 2. A section demonstrating the pale right lobe in contrast to the left lobe.

tio placentae, uterine rupture, or ruptured viscus.7 Marked nausea and vomiting may contribute to the rupture, 9 and Speert¹⁰ and Weintraub¹¹ cite strain associated with convulsion as the precipitating event. Sanes¹² and Rudemaker¹³ relate rupture to sustained uterine contractions, and Burton-Brown¹⁴ correlated it with contractions of the diaphragm and abdominal muscles. Though obviously any of these could be precipitating factors in an already diseased liver, none should be sufficient to rupture a nondiseased organ.

The pathophysiology of hepatic damage in toxemia is probably related to disseminated intravascular coagulation, with fibrin and fibrinogen deposits in the hepatic sinusoids causing periportal necrosis. 15 This probably leads to small areas of hemorrhage that coalesce and dissect to a subcapsular area.¹⁶ Why it appears mainly in older multigravidas is unknown, though many^{3,7,17} believe that the reticuloendothelial system is blocked by a previous "sensitizing" pregnancy that prevents phagocytosis of the fibrin. In experimental animals a similar picture is seen with hepatic necrosis when the reticuloendothelial system is blocked.3 This is confirmed by the clinical and pathologic findings in our patients.

The treatment of hepatic rupture depends on the size of the laceration, whether or not delivery has occurred at the time of rupture, and the degree of blood loss. The most successful treatment is surgical. Nonoperative treatment has been fatal in all cases except one, and even with surgery the mortality approaches 40%.2.5 As an aid to early diagnosis, one should keep in mind that a ruptured liver is a likely cause of hypotension in a patient with toxemia who has epigastric or right upper quadrant pain. Prompt surgical intervention should be carried out and the patient delivered immediately. Even with large hematomas, evacuation and ligation of the bleeding points have sometimes been successful,18 though this is not always possible, as in our case. When direct ligation of bleeding points is not possible, deep hepatic sutures using atraumatic needles may be successful. Omental pedicles, application of topical coagulants such as Avitene or Surgicel and arterial embolization have been used when direct suturing is impossible.^{2.3}

When none of these measures is effective or possible, the hepatic artery should be ligated. Some even believe that this should be used more often, and always tried prior to attempted hepatic lobectomy. 19,20 These authors recommend temporary clamping of the vessel, observing for a

decrease in bleeding prior to permanent occlusion, since the blood supply to the liver is variable and may require an arteriogram to identify the correct vessel. Drainage is recommended to decrease infection, prevent bile peritonitis, and monitor further bleeding.^{2,19,20} If delivery has not already been carried out, surgical delivery is in order. Severino²¹ believes this prevents labor with its increased intra-abdominal pressure, prevents death of infant should the mother die, and leads to remission of toxemia.

If a great deal of blood has been lost or shock has been present for an extended period, one can expect a complicated postoperative course, and appropriate consultations should be obtained.²² To help care for the expected adult respiratory distress syndrome, pulmonary medicine assistance is needed, along with anesthesia, a hematologist for possible continued coagulation disorder, and a nephrologist for the expected renal failure. The patient's best chance of survival will depend on the smooth interaction of a multidisciplinary medical team.

REFERENCES

- 1. Abercrombie J: Hemorrhage of the liver. London Medical Gazette 34:792, 1844.
- Herbert WN, Brenner WE: Improving survival with liver rupture complicating pregnancy. Am J Obstet Gynecol 142:530, 1982.
 Bis KA, Waxman B: Rupture of the liver associated with pregnancy: a
- review of the literature and report of two cases. Obstet Gynecol Surv 31:763, 1976.
- 4. Jewett JF: Eclampsia and rupture of the liver. N Engl J Med 297:1009, 1977.
- 5. Hibbard LT: Spontaneous rupture of the liver in pregnancy: a report of
- eight cases. Am J Obstet Gynecol 126:334, 1976.

 6. Baumwol M. Park W: An acute abdomen: spontaneous rupture of liver during pregnancy. Br J Surg 63:718, 1976.

 7. Westerguard L: Spontaneous rupture of the liver in pregnancy. Acta Obstet Gynecol Scand 59:559, 1980.
- 8. Pritchard JA, MacDonald PC: Williams Obstetrics, ed 16. New York, Appleton-Century-Crofts, 1980, p 666.
- 9. Roopnarinesingh S, Janney W, Gopeesingh T: Rupture of the liver as a complication of preeclampsia: case report and review of the literature. Int Surg 66:169, 1981.
- 10. Speert H. Tillman A: Rupture of liver in pregnancy. Am J Obstet Gynecol 63:1127, 1952.
- 11. Weintraub F: Toxemia of pregnancy with unusual postmortem findings. Am J Obstet Gynecol 51:275, 1946.
- 12. Sanes S, Kaminski CA: Spontaneous rupture of the liver complicating pregnancy. Am J Obstet Gynecol 52:325, 1946.
- 13. Rademaker L: Spontaneous rupture of liver complicating pregnancy. Ann Surg 118:396, 1943.
- 14. Burton-Brown JRC, Shepherd JA: Rupture of the liver associated with parturition. Br Med J 1:941, 1949.
- 15. Arias F, Mancilla-Jimenez R: Hepatic fibrinogen deposits in preeclampsia. N Engl J Med 295:578, 1976.
- 16. McKay DG: Clinical significance of pathology of toxemia of pregnancy. Circulation 30:66, 1964
- Mokatoff R, Weiss L, Brandon LH, et al: Liver rupture complicating toxemia of pregnancy. *Arch Intern Med* 119:375, 1967.
 Nelson EW, Archibald L, Albo D: Spontaneous hepatic rupture in pregnancy. *Am J Surg* 134:817, 1977.
- 19. Mays ET, Conti S, Fallahzadeh H, et al: Hepatic artery ligation. Surgery 86:536, 1979.
- 20. Lucas CE, Ledgerwood AM: Factors influencing morbidity and mortality
- after liver injury. Am Surg 44:406, 1978.

 21. Severino LJ, Freedman WL, Maheshkumar AP: Spontaneous subcapsu-
- lar hematoma of liver during pregnancy. NY State J Med 70:2818, 1970.

 22. Henny P, Tim AE, Grummelkamp WH, et al: A review of the imporjance of acute multidisciplinary treatment following spontaneous rupture of the liver capsule during pregnancy. Surg Gynecol Obstet 156:593, 1983.

Osteogenic Sarcoma of the Breast A Case Report

J.L. FARRINGER, JR., M.D.

Introduction

It would appear from the English language literature that osteogenic sarcoma of the breast is a rare lesion. Rottino and Howley¹ in 1945 found 25 cases they were willing to accept. They located 97 cases showing either cartilage or some osteoid tissue. Of the 25 they accepted, only ten actually showed osteoid tissue, but they postulated that in some of the remaining 15 cases the osteoid tissue may have been missed. They reported that fibroadenomas were often present and expressed the opinion that osteogenic sarcoma probably developed in fibroadenomas.

Jernstrom et al² in 1963 reported that they were able to locate 115 cases of osteogenic sarcoma of the mammary gland. One case was added of a 69-year-old white woman who had only a local excision and was said to have lived several years and died of a myocardial infarction. They state that sarcomas make up 0.9% to 3% of all malignancies, and of the sarcomas of the breast, 5% to 12% are osteogenic.

Smith and Taylor³ in 1969 reported that in the files of the Armed Forces Institute of Pathology they found 35 breast lesions containing bone or cartilage. These patients ranged from 14 to 86 years of age and were all female, with a median age of 56. Of this group nine resembled mixed tumor of the salivary gland, and seven were cystosarcoma phyllodes with bone or cartilage present. Osteosarcoma or spindle cell sarcoma with bone or cartilage was present in nine, and there were ten adenocarcinomas with osseous or cartilaginous metaplasia.

Hutton and Strange⁴ in 1984 reported an osteogenic sarcoma of the breast in an 82-year-old

white woman who was treated by a simple mastectomy. It is of some interest that this was a 3-cm mass which took up the radionuclide material and was noted first on the radionuclide scan. She had a Tru-Cut needle biopsy and refused further treatment until pain developed. The patient died ten months after the simple mastectomy. These authors state that T. Bonet first described bone-containing tumors of the breast in 1700, and the histology was first described by Lancereaux in 1860.

Encouraged by the scarcity of reports in the Engish language literature on patients with osteogenic sarcoma of the breast, we are presenting this case report.

Case Report

History indicated that this 64-year-old white woman had a mass in the breast, to her knowledge, since Sept. 23, 1982. She hit her breast with her arm, generating some pain, and felt a small mass in her breast at that time. There had been some mild soreness intermittently since, and the mass continued to increase in size. In December 1982, the patient consulted her family physician, who aspirated about 80 cc of clear but somewhat bloody fluid from the mass, which then decreased significantly in size. When she was sent for mammograms, she was told that there was a suspicion of malignancy due to calcium stipling.

The patient was referred to me at that time and was found to have a 10- to 12-cm mass occupying almost the entire inner half of the breast. There was neither retraction nor dimpling of the skin, and the nipple was not retracted; no blood could be expressed from the nipple. The patient was admitted to the hospital on Jan. 20, 1983, and the following day a formal radical mastectomy was performed because of the size and its extent down to the facia covering the muscle. Grossly the tumor varied from tan to reddish-brown, was solid, and fairly well demarcated from the surrounding tissue, with an irregular, interdigitating margin. The consistency of the tumor varied from firm to hard and gritty. Microscopically, almost all of the tumor consisted of grade IV osteogenic sarcoma. with osteoid formation varying from abundant to sparse (Figs. 1 and 2). No regions of carcinoma were identified in or adjacent to the tumor, but an area 1 cm in maximum dimension of fairly typical cystosarcoma phyllodes was identified in the central portion of the tumor (Fig. 3) The stromal cells of the cystosarcoma region appeared to merge with the osteosarcoma peripherally (Fig. 4). In none of the 26 lymph nodes identified were any metastases found. The postoperative

From the Department of Surgery, Vanderbilt University School of Medicine, and the Surgical Service, Baptist Hospital Inc., Nashville.

Reprint requests to 1919 Hayes St., Nashville, TN 37203 (Dr. Farringer).

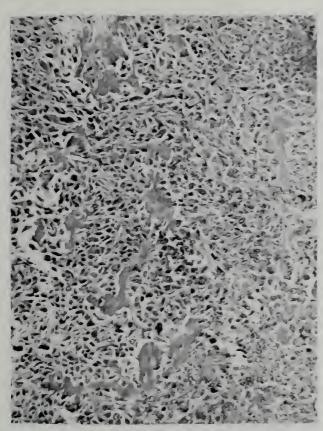


Figure 1. Grade IV osteogenic sarcoma with islands of osteoid surrounded by anaplastic osteoblasts (X 400).



Figure 2. High power photomicrograph of osteogenic sarcoma (X 640) with island of osteoid at left.



Figure 3. Low power photomicrograph (X 130) of region of cystosarcoma, with junction of cystosarcoma and osteogenic sarcoma at top.

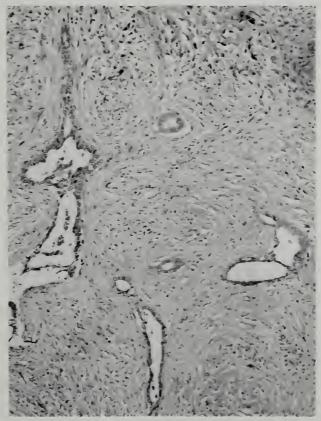


Figure 4. Higher power (X 400) of junction of cystosarcoma and osteogenic sarcoma.

BREAST OSTEOSARCOMA/Farringer

course was uneventful, and the patient was discharged from the hospital on Jan. 29, 1983, the eighth postoperative day. Following this and a search of the literature, it was decided that the patient had the best chance of survival if she received radiation therapy. Therefore, radiation therapy was institut-

The patient appeared to do well until December 1983, almost a year from the time of the radical mastectomy, when she was found to have a 6-cm purplish area of discoloration of the medial aspect of the chest wall. This was fixed to two or more ribs. The patient was readmitted to the hospital on Dec. 5, 1983. Chest x-ray on admission showed no tumor. On July 30, 1983, and Nov. 23, 1983, a chest x-ray including rib and sternal detail films, revealed no skeletal abnormality, and liver, spleen and bone scans were normal. Computed tomography of the chest and mediastinum revealed only the lesion that was visible on clinical examination.

On Dec. 9, 1983, resection of the area of the chest wall was performed. On opening the chest we found multiple pleural implants or metastases, but since by this time the ribs had been resected, we proceeded to remove the chest wall lesion, and the plastic surgeon closed the defect by a rectus muscle skin pedicle after the chest wall had been stabilized with nylon tapes and Proline mesh. The patient was kept on endotrachial tube and ventilator until Dec. 13, 1983, the fourth postoperative day, at which time she was extubated and allowed to go to the regular nursing unit. Following this surgery, the patient progressed rather slowly and remained in the hospital until Dec. 21, 1983.

She was again admitted to the hospital on Jan. 10, 1984, because of diarrhea and vomiting. While in the hospital a mass containing osteogenic sarcoma was removed from the medial portion of the left breast. Because the chemotherapist who consulted with her offered only a slim chance that therapy would help her, she declined chemotherapy and was discharged from the hospital on Jan. 21, 1984. After a progressive downhill course she died in her hometown hospital on April 22, 1984. No autopsy was obtained.

Comment

Most of the reports we have located on osteogenic sarcoma of the breast have simply reported the patients, the number of cases found, and have described in more or less detail the pathologic appearance of the tumor under the microscope. All authors report a very short survival time. It would appear that there has been little, if any, improvement in the method of treating this condition since the earliest reports. Although our patient received vigorous radiation therapy following a classical radical mastectomy, she survived only 15 months, the last three months of a very poor quality.

It is hoped that future research will develop a method of treating this rare but highly fatal condition.

REFERENCES

- 1. Rottino A, Howley CK: Osteoid sarcomas of the breast: a complication
- of fibroadenomas. *Arch Pathol* 40:44-50, 1945.

 2. Jernstrom P, Lindberg AV, Meland ON: Osteogenic sarcomas of mammary gland. *Am J Clin Pathol* 40:521-526, 1963.

 3. Smith BG, Taylor HB: The occurrence of bone and cartilage in mammary
- tumors. Am J Clin Pathol 51:610-618, 1969.
- 4. Hutton CW, Strange C: Osteosarcoma of the breast with mediastinal obstruction. Postgrad Med J 60:159-161, 1984

Help for Impaired Physicians

Through its Committee on Impaired Physicians, TMA helps doctors who are suffering from alcoholism and drug addiction. The thrust of the program is rehabilitative, not punitive. The Committee is composed of physicians who have special expertise in these areas, some from personal experience. Effective treatment for these illnesses is achieved most easily when the disease is detected early and family, friends, and associates are urged to avoid misguided sympathy which enables the condition to deteriorate.

HELP US TO HELP

Call the TMA Impaired Physician Program (615) 327-2711; outside Nashville call collect. Phone service available around the clock.

CANK ANK ANK ANK ANK ANA ANK ANK

Management of Subclavian Vascular Injuries

WILLIAM J. WALTERS, M.D.; HOBART E. AKIN, M.D.; and GENE V. AABY, M.D.

Subclavian vessel injury is uncommon, and in civilian and military series accounts for 1% to 4% of all arterial injuries. Most result from penetrating wounds and only rarely from blunt trauma because the subclavian artery and vein are well protected by the overlying clavicle and sternum. Trauma sufficient to disrupt these protective structures will often injure the associated great vessels and result in fatal exsanguination. Occasionally, however, a patient will survive long enough to arrive in the emergency room.

Early diagnosis, control of bleeding, rapid transfusion, and appropriate repair of injured vessels can result in an excellent outcome.

Case Report

A 17-year-old boy, a front seat passenger in a vehicle involved in a head-on collision with a tree, was thrown forward through the windshield and impaled on the car's hood, which was folded back on itself by the impact. The leading point of the hood struck the victim in the right upper thorax over the clavicle, fracturing the clavicle and first rib, severing the subclavian artery and vein, and causing an open pneumothorax. At the scene of the accident a pressure dressing was placed in the open chest wound as a tamponade. In addition, he sustained multiple facial lacerations, a mandibular fracture, and blunt abdominal trauma.

He was initially taken to an outlying hospital emergency room where his injuries were assessed and fluid replacement was initiated. A large-bore intravenous (IV) line was started in each forearm (see discussion) and fluid replenishment was begun prior to transfer to the University of Tennessee Memorial Hospital. On arrival at our emergency unit he was in profound shock, with a blood pressure of 70 mm Hg systolic and pulse rate of 130/min. He was ashen, diaphoretic, confused, and combative. The right upper extremity was cool, pale, and without palpable pulses.

The patient was intubated and fluid replacement was continued with crystalloid solutions and type specific blood. Because of his venous injury, only the left venous access was functional, and a second large bore IV line was started in a left forearm vein. The initial hemoglobin was 5.9 gm/dl, hematocrit was 18%, and arterial blood showed a pH of 7.00. He was taken to the operating room, where exploration demonstrated a gaping 5-cm puncture wound in the right midclavicular area and a compound, comminuted fracture of the cla-

From the divisions of General and Cardiothoracic Surgery, Department of Surgery, University of Tennessee Memorial Research Center and Hospital, Knoxville.

vicle and first rib. The subclavian artery and vein had been transected and were thrombosed, and an open pneumothorax was present.

After vascular clamps were applied on the proximal and distal ends of the exposed vessels, a 15-cm transverse incision was made over the clavicle on either side of the wound, extending medially from the border of the sternum through the wound and laterally to the level of the coracoid process. When the proximal two-thirds of the clavicle and first rib was resected, the anatomic divisions of the brachial plexus were found to be uninjured.

The wound was copiously irrigated and debrided of non-viable tissue, and the battered ends of the vessels were trimmed back to fresh, healthy-appearing vessel wall. In the subclavian artery, there was a defect of approximately 3 cm which was repaired by an interposition graft of autogenous reversed saphenous vein. Mobilization of the subclavian vein allowed approximation of the posterior wall without undue tension, but a saphenous vein patch was required to complete the repair. The anastomoses were covered with pectoralis and scalenus anticus muscle, a chest tube was placed in the fifth intercostal space at the anterior axillary line, and the wound was closed primarily.

Following repair of the subclavian vessels, a peritoneal lavage was positive, and exploratory celiotomy confirmed mesenteric injury.

Postoperatively, the patient did well. Immediately postoperatively and throughout his hospitalization he had palpable brachial, radial, and ulnar pulses. There was no significant edema of the upper extremity, and the only significant neurological injury found postoperatively was a Horner's syndrome on the right.

Discussion

Treatment of the individual with major vascular injury should proceed in an orderly manner. Control of hemorrhage is fundamental. Open wounds that continue to bleed can usually be controlled by finger pressure or by packing of the wound. Control of hemorrhage by instrument should be done only under direct visualization of the offending vessel and only with a vascular clamp. A nonvascular clamp placed on a viable portion of a damaged vessel may result in permanent damage to a critical length of the vessel, which, instead of being repaired primarily, may require an interposition graft. Proximate nerves may also be injured.

A patent airway should be established and assisted ventilation instituted if required. Rapid

JULY, 1985 429

transfusion of crystalloid and blood should be administered through two or more large bore IV sites with uninterrupted flow into the central circulation. Placement of IV cannulae in the involved extremity is useless, and can lead to inaccurate assessment of fluid. A Foley catheter is inserted in the bladder to monitor urine output and a nasogastric tube is often indicated.

Complete preoperative evaluation is not always possible because of uncontrolled hemorrhage that requires immediate attention. A rapid but thorough examination should determine the priority of treatment. A quick evaluation of the involved extremity, with particular attention to distal pulses, is often sufficient. If the patient is stable and alert a more formal examination, including neurological examination and documentation of neurological deficits, is desirable. Preoperative angiography may be helpful in confirming the injury and identifying other vascular injuries in the area, but it is inappropriate in the unstable patient. Preoperative antibiotics and appropriate antitetanus prophylaxis are also given, and type and crossmatch is drawn.

X-ray examination of other injuries can be done if the patient is hemodynamically stable, and occult injury to the abdomen, pelvis, and contralateral chest should be considered if there is prolonged hypotension in spite of seemingly adequate resuscitation.

The patient should be widely prepped to include the entire chest and involved extremity. An appropriate lower extremity should also be prepared for potential saphenous vein retrieval. The choice of incision should be one that can promptly and adequately expose the injured vessels and offer adequate exposure of a suitable length of uninjured vessel so that proximal and distal control can be rapidly attained.2 A median sternotomy extending to the third intercostal space to create a book incision may be required for proximal vascular control.3 There is controversy as to whether the clavicle and the first rib should be resected to gain adequate exposure.4 In this case both the clavicle and the first rib were fractured and were easily resected.

Once adequate exposure is established, proximal and distal control of the injured vessels is accomplished with vascular clamps, vessel loops, or intraluminal cannulation with a Fogarty catheter. To avoid air embolism of the central circulation the subclavian vein should be occluded as soon as possible either by clamping the vessel or by cannulating it with a Fogarty catheter and in-

flating the bulb. Gaining control of the injured vessels distally can be difficult through the primary incision. Either the incision can be lengthened or a separate incision in the area of the axillary artery and vein can be made.

Once proximal and distal control of the injured vessels is secured, the wound should be debrided of all nonviable tissue and foreign material, and then copiously irrigated with saline to prevent postoperative infection. Injury to collateral vessels should be sought, and the brachial plexus should be carefully examined and any injuries documented. The phrenic and vagus nerves, including the recurrent laryngeal branch, may be damaged, and with left-sided injuries the thoracic duct should be identified.

The extent of the injury will determine whether primary anastomosis or interposition grafting is required. In the case of penetrating trauma with significant tissue loss, primary closure is usually not possible. Since the subclavian vessels can be mobilized only for a short distance because of fixation by the extensive collateral vessels, autogenous saphenous vein interposition graft is the treatment of choice. The use of synthetic material is controversial and not favored by most surgeons.

Backbleeding from the distal vessel may result from collateral circulation through vessels close to the transection, and does not indicate adequate circulation farther down the extremity. Therefore, a Fogarty embolectomy catheter should always be used to remove distal and proximal thrombi prior to anastomosis.

Three factors should be stressed to ensure a successful repair. First, the anastomosis should be without stenosis and without tension, and the anastomoses should be protected by adequate soft tissue coverage. Intraoperative arteriography may be useful.

Postoperatively, the upper extremity should be frequently examined to confirm distal pulses and for signs of ischemia. Fasciotomy should be considered if there is any evidence of muscle swelling, and should be considered as prophylaxis if there has been prolonged ischemia.

REFERENCES

- Rich NM, Hobson RW, Jarstfer BS, et al: Subclavian artery trauma. J Trauma 13:485-496, 1973.
- 2. Lim TM, Soletta JD, Flanigan DP: Subclavian and innominate artery trauma. Surgery 86:890-897, 1979.
- 3. Graham JM, Feliciani DV, Mattox KL, et al: Management of subclavian vascular injuries. *J Trauma* 20:537-544, 1980.
- 4. Matloff DB, Morton JH: Acute trauma to the subclavian arteries. Am J Surg 115:675-680, 1968.

Psychotropic Drug Use in Older People: A Review

JAMES A. GREENE, M.D.

Overview of Problem

Psychotropic drug use in geriatric patients is seldom optimal, despite the fact that these agents are used more commonly in the elderly than in any other age group. For example, 75% of nursing home patients receive at least one psychotropic drug. The incidence of polypharmacy rises progressively with increasing age, and this usually ineffective, potentially risky, and expensive practice is associated with higher dosages.

To compound these problems, therapeutic negative thinking often underlies psychopharmacologic treatment of the elderly. Many clinicians (including psychiatrists) have the attitude that since old age is "irreversible," patients with latelife psychiatric disorders must be beyond recovery, and consequently that psychopharmacologic palliation and "control" of symptoms may constitute the mainstays of treatment, with little effort to achieve remission and rehabilitation.

Inadequate Treatment and Physiology of Aging

The physician's attitude is one factor that influences the use of psychotropic agents in the elderly. Negative attitudes toward the aging and the aged are prevalent and have a significant impact on the quality of care. Such attitudes have been termed "ageism"—a bias against the old based solely on their age. The roots of parental conflicts, self-perceptions of clinical ineptness, and reminders of their own feelings of mortality are all evoked in many physicians upon contact with an elderly patient. These usually remain at the unconscious level, and in their place the physician tends to use stereotypic terms such as "over the hill," "crock," "hopeless," or "senile." Ageism can result in low-quality care, neglect, and negligence.

From the TMA Geriatrics Committee. Dr. Greene is director of the Gerontology Center, East Tennessee Baptist Hospital. Knoxville. Another cause of inadequate treatment in older persons is failure to consider the normal and abnormal physiologic changes that occur with aging and that directly affect psychopharmacologic response.^{2,3} Effective drug treatment depends on sufficient but not excessive amounts of the agent arriving at target receptor sites to produce desired physiologic changes. Pharmacokinetics and pharmacodynamics play key roles in attaining this desired outcome.⁴

The broad category of pharmacokinetics, the area of pharmacology that includes absorption, distribution, metabolism, and excretion of drugs in the body, must be considered. In the elderly, gastrointestinal absorption of medications is often impaired. The aged have decreased total gastric acidity, which influences the absorption of certain medications. Atony from atrophy or deterioration of smooth muscle in the gastrointestinal system lengthens the transit time of medications. and thereby increases their likelihood of being metabolized in the interfacing gut wall. Likewise, decreases in the gastrointestinal arterial supply from atherosclerosis or decreased cardiac output may further diminish absorption and uptake of drugs.

Distribution of drugs is often impaired in the elderly. It must be remembered that lean body mass diminishes in aging and is replaced by fat, which traps many psychotropic agents because of their lipophilic nature. Distribution can be slowed by decreased cardiac output, increased circulation time, and possible underlying myocardial pathology. Due to decrease in serum proteins, a general finding in the elderly, transport of medication in the plasma may be impaired, and likewise the active free drug fraction will be increased, with a corresponding increase in side effects.

Metabolism of psychotropic agents invariably changes as a person ages. Even though liver

JULY, 1985 431

function studies may be normal, hepatic metabolizing systems are less efficient with advanced age. Renal cellular impairment often appears very slowly and can alter chemical conjugation of medications. Serum creatinine clearance more accurately reflects renal function than serum creatinine does.

Drugs are excreted much more slowly in the aged, primarily because renal blood flow is diminished. Renal clearance in the elderly diminishes at about 6% per decade past age 30; the glomerular filtration rate may diminish 30% from age 45 to age 90.

The *pharmacodynamics* of drugs are altered in aged individuals. Pharmacodynamics describes drug-receptor interactions. Due to normal neuronal loss and cytoarchitectural changes that occur in the aging brain, both the sensitivity and reactivity to psychotropic agents may be paradoxically modified.

Disregard of late-life physiologic changes and their consequent impact on pharmacokinetics and pharmacodynamics increases the risk both of failure to produce remission and of unnecessary and excessive side effects, significant problems in the elderly. The incidence of drug-related iatrogenic disease is considerably higher in the geriatric than in younger populations. Studies have shown as high as 25% of elderly patients have significant side effect problems.

Most unnecessary side effects in the elderly are due to dosages that have not been adjusted downward, taking into account the normal physiologic changes of aging mentioned above. Thus, the usual adult dosage results in a higher concentration of free, active agent available to act on other than target receptor sites, increasing the risk of side effects.

Abnormal physiologic changes can also contribute to the production of side effects. This is of paramount importance in the elderly, considering that approximately 85% of them have at least one chronic illness and 50% have two or more. For example, Parkinson's disease is caused by or associated with a reduction of dopamine. Because major tranquilizers are dopamine-lowering agents, they can exacerbate Parkinson's disease. Because of their anticholinergic activity, major tranquilizers and tricyclic antidepressants can produce or worsen the urinary symptoms associated with benign prostatic hypertrophy. Heart disease can also be complicated by psychotropic agents, which can adversely affect cardiovascular functioning.5

Tricyclic Antidepressants

The tricyclic antidepressants, the most commonly used medications in the treatment of depression, all have certain features in common. Even though the drug literature refers to sedative and nonsedative tricyclics, they are all sedative, the sedation of a tricyclic being only a matter of degree; none is a stimulant. The sedative effect resembles that of the phenothiazines or the antihistaminics rather than that produced by the benzodiazepines or hypnotics. In general, the tertiary amines, such as imipramine (Tofranil), amitriptyline (Elavil), and doxepin (Sinequan), are the most sedating, and the secondary amines less sedating; protriptyline (Vivactil) has been reported to be the least sedating of all. All of the tricyclics have antihistaminic properties, which may be related to their sedative action, and all have anticholinergic effects of varying degrees.

Mechanism of Action

All tricyclics block the reuptake of neuro-transmitters released in the synaptic cleft by presynaptic neurons. It is this latter action, along with other evidence, that has led to amine hypothesis. Both serotonin and norepinephrine seem to be implicated, although perhaps to different degrees, depending on the patient. In general, the tertiary amines are the more potent blockers of serotonin uptake, whereas secondary amines tend to block norepinephrine more selectively.

Tricyclics and Older Persons

Tricyclics are efficacious in the elderly when administered in relatively low dose. Further, for at least two major reasons these drugs produce more adverse effects in older than in younger adults. First, older persons show less protein binding of the drugs and they metabolize them more slowly. Consequently, they are particularly susceptible to both the beneficial and the detrimental effects of these drugs. They are especially sensitive to the cardiac, hypotensive, sedative and anticholinergic side effects of the tricyclics. Second, older adults, who comprise 11% of the U.S. population, consume 25% of all prescription drugs and the geriatric individual fills an average of 13 prescriptions per year. The interaction of these drugs, both pharmacodynamically and pharmacokinetically, with the tricyclics increases the risk of side effects, a possibility that must always be kept in mind when treating such patients.

For example, elderly patients may be receiving guanethidine, alpha-methyldopa, or clonidine for hypertension. Not only can the tricyclics quickly reverse the antihypertensive action, but they may even cause an overshoot, leading to dangerously high blood pressures. anticholinergic effects of tricyclics decrease gastrointestinal mobility and may delay absorption of other drugs, thus diminishing their bioavailability. In combination with alcohol the sedative action of the tricyclics can cause both motor disability and diminished vigilance. The tricyclics have potential cardiotoxicity, their anticholinergic properties producing accelerated heart rate and diminished cardiac conduction. These effects may result in ventricular tachyarrhythmia, especially in patients with preexisting cardiac conduction defects. Antipsychotics such as thioridazine (Mellaril) have the same antiarrhythmic and atropine-like actions on the heart as the tricyclics, and thus they may act synergistically when prescribed concurrently.

In the elderly, starting dosages of tricyclics should be small and increased at a slow rate⁶; consequently, the patient may respond slowly. An initial dose of about 25 mg at bedtime with slow increases over a period of a week or two to about 75 mg at bedtime is my standard practice. The required dosage varies widely in the elderly. Some 80- to 90-year-olds respond to doses as low as 25 to 50 mg/day, and yet others may require as much as 200 mg/day before beneficial effects are evident. Monitoring of blood levels may be useful in patients of any age, and especially the elderly.⁷

Early in treatment the patient should be carefully observed for side effects such as toxic confusion, glaucoma, urinary retention, constipation, parkinsonian symptoms, and cardiovascular symptoms.⁸ It is advisable to obtain a baseline ECG, and pulse and blood pressure should be monitored routinely.

The choice of antidepressant among the many available is largely empiric. The history of the patient's previous drug experience is probably the best guide. The clinical picture of the patient—whether he is agitated or retarded—is also helpful. If the patient is agitated and sedation is desirable, tertiary amines such as doxepin may be initially chosen, whereas if the patient is akinetic and retarded, protriptyline, desipramine (Norpramin), or nortriptyline (Pamelor), might be se-

lected. If there is evidence of cardiac damage, the tricyclics should either be avoided or used very cautiously. Doxepin is reported to have fewer cardiotoxic effects than the other tricyclics, and may often be the tricyclic of choice for geriatric patients. The new tetracyclic maprotiline (Ludiomil) supposedly has fewer anticholinergic side effects, and in our experience is quite effective in treating depression in the elderly.

Bupropion (Wellbutrin) is a still newer antidepressant; it is chemically unrelated to the tricyclics, and supposedly has no anticholinergic effects, no sedative effect, and no tendency to produce weight gain. If this is substantiated, it could be an important new breakthrough in treating depression in older people. Since there is some tendency for bupropion to lower the seizure threshold, patients prone to seizures should not receive the drug. The recommended dose of bupropion is approximately three to four times that of the most frequently used tricyclics, thus 100 mg at bedtime would be a reasonably safe starting dosage for the older adult.

The clinician should remember that the risk of suicide in the elderly is high, and overdose of tricyclics is very dangerous and extremely difficult to manage. Elderly patients should therefore not have large quantities of these drugs available. I usually prescribe no more than a 14-day supply. Although most clinical trials in large groups of patients have shown that the tricyclics are approximately equivalent in therapeutic efficacy, for reasons not fully understood individual patients who do not respond to one may respond extremely well to another. Ultimately, a biochemical explanation may be found, but until then, empiric choices must be based on either the physician's past experience and/or his familiarity with the drugs. Becoming very familiar with one drug in each category and sticking to it is probably the best practice.

Antianxiety Agents

When evaluating complaints of the elderly, one must remember that anxiety neurosis does not begin in senescence, but is an illness that begins in adolescence or young adulthood and may or may not persist throughout life. The onset of anxiety in the elderly person should always suggest an organic cause.

Prior to the introduction of the benzodiazepines, barbiturates were classically used to treat anxiety states. In the elderly, barbiturates should be avoided, since they may cause paradoxical ex-

JULY, 1985 433

citement due to cortical disinhibition. Likewise, barbiturates induce hepatic drug metabolizing enzymes that can modify the response to concomitant medications, which could be particularly troublesome in the elderly patient taking numerous medications. The use of barbiturates also makes dystaxia more likely in aged individuals and increases the likelihood of falling, with a resulting fracture. Meprobamate (Equanil) has effects similar to those of barbiturates, and should be avoided for the same reasons. Antihistaminics such as diphenhydramine (Benadryl) or hydroxyzine (Vistaril) have sedation as a side effect, which has given them the undeserved reputation of being useful in anxiety. These agents are very highly anticholinergic, and may be additive with other anticholinergic drugs such as belladonna alkaloids, useful gastrointestinal medicine. Because of their atropine-like effects, they can increase constipation, cause urinary retention, or exacerbate glaucoma.

The benzodiazepines have essentially replaced sedative agents in the treatment of anxiety. Those used in anxiety states can essentially be grouped into three classifications. Chlordiazepoxide (Librium), diazepam (Valium), and the chlorazepates (e.g., Tranxene) all produce pharmacologically active metabolites. In the elderly the halflives of secondary metabolic products are increased and this increased half-life can approach two to three days in some individuals thus enhancing the likelihood of accumulation. This is generally observed after 10 to 14 days of therapy. The second group of drugs is the chlorazepates. These require acid hydrolysis in the stomach to be pharmacologically active. Any cause of increased gastric pH or diminishment of free gastric acid will cause less drug to be available. This is often a normal consequence of aging and is also seen in postgastrectomy patients or those who consume excessive amounts of antacids. The third group of benzodiazepines consists of oxazepam (Serax), lorazepam (Ativan) and alprazolam (Xanax). These drugs are metabolized by simple glucaronide conjugation, have no active metabolites and therefore do not accumulate. These are probably drugs of choice in the elderly where a benzodiazepine is wanted.

Hypnotics

The benzodiazepine flurazepam (Dalmane) is used primarily as a hypnotic. It has recently been noted that the elderly receive more prescriptions for hypnotics than any other segment of our pop-

ulation and probably receive 40% of all sedatives prescribed. Flurazepam has a long half-life, of 50 to 100 hours even in middle-aged individuals. In the elderly, the half-life could be as long as one week. Recent studies have noted that even in young people, daytime mental activity is often reduced after a single dose of flurazepam, and delirium has been noted in some elderly patients at usual hypnotic doses. Further, the intramuscular absorption of chlordiazepoxide and diazepam is inferior to their oral absorption, and erratic and unpredictable results may occur. Chloral hydrate is a relatively safe hypnotic for short-term hospital use, but due to high protein binding, it may displace other medications from serum binding sites and increase side effects. We prefer to use the short-acting benzodiazepines, e.g., oxazepam or lorazepam, for sedating the elderly patient. Triazolam (Halcion) and tamazepam (Restoril) are sedatives with shorter half-lives and are thus preferable when a stronger sedative is needed.

Major Tranquilizers

The primary uses of antipsychotic agents in the elderly are for the management of arousal signs of organic brain syndrome and in elderly patients who are schizophrenic or suffering from psychotic depression. As with other medications, the dosage of antipsychotic drugs must be drastically reduced. Likewise, elderly patients seem more sensitive to the neurologic side effects of these agents. It has been noted that the occurrence of extrapyramidal effects from neuroleptics is inversely related to their anticholinergic activity. Thus, highly anticholinergic medications, such as thioridazine, are much less likely to cause neurologic difficulty in the aged, but on the other hand, in excessive dosages these antipsychotic agents would be more likely to produce anticholinergic confusion. Haloperidol (Haldol), and thiothixene (Navane), are almost devoid of anticholinergic effects and are most useful in patients where this is a consideration. Some studies have suggested that low dose-high potency antipsychotic agents are preferable in treating older people. In our experience, the use of haloperidol 0.5 to 1.0 mg in the morning and 1 to 2 mg at bedtime is a good starting dosage for elderly patients with organic psychosis (e.g., Alzheimer's disease). Additionally, haloperidol at 0.5 to 1.0 mg every one to two hours as needed can help titrate the most effective dosage for the psychotic/confused patient.

Agitation in Institutionalized Aged Patients

When the older person with an occult organic brain syndrome is admitted to a nursing home or a general hospital medical or surgical service, he may lose environmental orienting signals, and the effects of surgical procedures or medical illnesses may then cause acute delirium. Such patients can be serious management problems, and the unwary physician who treats aged persons with antipsychotic agents may accidentally overdose the patient. The agitated elderly patient in a general hospital can often be treated by rapid intramuscular titration, making drugs readily bioavailable, thus avoiding the previously discussed gastrointestinal pharmacokinetic problems. Again, the use of haloperidol 0.5 mg to 1.0 mg every one to two hours as needed (orally or intramuscularly) can often be effective in calming the agitated elderly patient fairly safely.

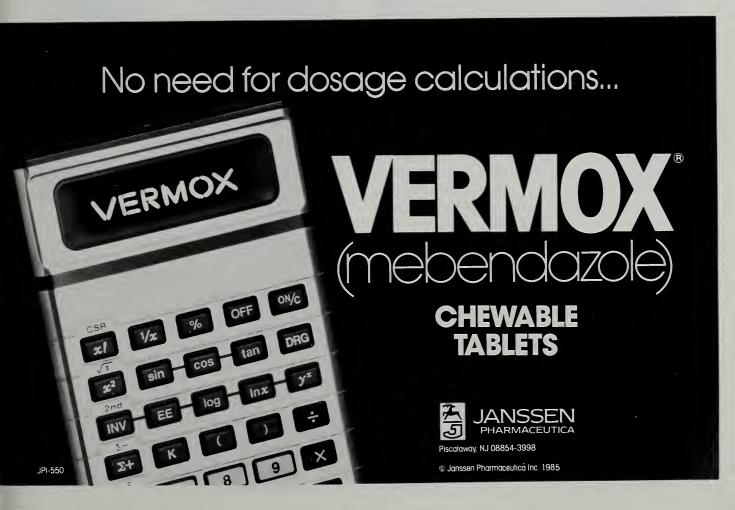
Conclusions

The older patient presents a challenging and demanding but very exciting task for the physician who is attempting to treat abnormal behaviors with psychotropic medication. If the patient is carefully assessed, and appropriate dosages and types of psychotropic agents are chosen, the quality of life of many aged individuals can be improved. Occasionally, dementing syndromes resembling Alzheimer's disease (pseudodementia) can be completely reversed with the use of these drugs. Often older people can remain either productive in society or behaviorally manageable without being chemically restrained. Most importantly, in the elderly, the use of multiple psychotropic medications or polypharmacy should be avoided.

REFERENCES

- 1. Levenson AJ: Psychotropic drug use in the elderly: an overview. Am Fam Physician 24:194-199, 1981.
- Thompson TL, Moran MG, Nies AS: Psychotropic drug use in the elderly, part I. N Engl J Med 308:134-138, 1983.
- 3. Thompson TL, Moran MG, Nies AS: Psychotropic drug use in the elderly, part II. N Engl J Med 308:194-198, 1983.
- 4. Gerber JG: Drug usage in the elderly, in Clinical Internal Medicine in the Aged. Philadelphia, W.B. Saunders, 1982, pp 51-65.
- . Davidson J, Ulenger T: Using antidepressants in patients with cardiovascular disease. Drug Therapy/Hospital, Nov 1982, pp 89-100.
- 6. Greene JA, O'Brien M, Johnson W, et al: Management of Alzheimer's
- disease. J Tenn Med Assoc 78:16-23, 1985.

 7. Task Force on the Use of Laboratory Tests in Psychiatry: Tricyclic Anti-depressants—Blood Level Measurements and Clinical Outcome. An APA Task Force Report. Am J Psychiatry 142:142-162, 1985.
- 8. Lipowski ZJ: Acute confusional states in the elderly, in Clinical Neurology of Aging. Oxford, 1984, pp 277-297.



Pulmonary Tuberculosis With Peripheral Neuropathy: The Importance of a Lateral Chest Film

STEVEN INGATO, M.D.; JAYANT B. MEHTA, M.D.; SANKAR LAKSHMAN, M.D.; and WILLIAM DRALLE, M.D.

Case Presentation

This 39-year-old black man entered another hospital for chest pain, weight loss, and symptoms compatible with a lower respiratory tract infection. Past history was noncontributory. Posteroanterior roentgenogram of the chest is shown in Fig. 1. PPD skin test showed 12 mm of induration, and sputum cultures confirmed the presence of Mycobacterium tuberculosis. Antituberculous chemotherapy with isoniazid, rifampin, and ethambutol was apparently well tolerated, and the hospital course was remarkable only for recurrent episodes of vague abdominal pain. Clinical improvement with weight gain was clearly demonstrated, and three subsequent sputum cultures were negative. Several weeks after discharge, however, the patient began experiencing weakness in both legs, and within two months was rehospitalized with bilateral lower extremity paresis and urinary incontinence. Isoniazid-induced pheripheral neuritis was suspected.

Discussion

The posteroanterior chest roentgenogram (Fig. 1) demonstrates soft fibronodular densities in both upper lobes, consistent with chronic granulomatous disease such as tuberculosis or histoplasmosis. The more subtle finding, which was apparently overlooked initially, is a retrocardiac density corresponding to a paraspinal soft tissue lesion in the region of the lower thoracic spine (Fig. 2). A lateral chest film would have been invaluable in defining the site and extent of this posterior mediastinal mass. Disregarding the particular clinical setting, the complete differential diagnosis of such a finding would include infectious (granulomatous, fungal, pyogenic), neoplastic (primary osteosarcoma, neurogenic tumor, metastatic disease, myeloma), developmental (neuroenteric and other cysts), metabolic (extra-



Figure 1. Posteroanterior chest x-ray.

medullary hematopoiesis), and traumatic processes. 1.2 Surgical drainage of the abscess and the bone biopsy proved the diagnosis of Pott's disease. The postsurgical lateral chest film (Fig. 3) demonstrates wedging of D-9 with almost complete collapse of the body of the spine.

It was not until the late 18th century that Percival Pott described the disease that today bears his name.² Tuberculous spondylitis is the major form of bone and joint tuberculosis, comprising at least 50% of skeletal TB cases; it is indeed the most common infection of the vertebral column in developing countries.³

From the Department of Internal Medicine, Quillen-Dishner College of Medicine, East Tennessee State University, and the Departments of Radiology and Pulmonary Medicine, Veterans Administration Medical Center, Johnson City.

Reprint requests to Department of Internal Medicine, Quillen-Dishner College of Medicine, ETSU, P.O. Box 21160A, Johnson City, TN 37614 (Dr. Mehta).



Figure 2. Posteroanterior chest x-ray with arrow showing paraspinal density

Once an affliction of children and young adults, the disease is no longer common in developed nations such as the United States, where the mean patient age is now approximately 50 years. Pott's disease characteristically involves anterior destruction of adjacent vertebral bodies in the lower thoracic spine, with wedging or collapse resulting in a tender posterior prominence (gibbus). Anterolateral dissection produces the distinct paraspinal abscess, demonstrated radiographically as a mediastinal widening or pearshaped retrocardiac density.4 Although local back pain is most common, referred pain, especially to the abdomen, may also be noted. More advanced disease produces cold abscesses, sinus tracts, neurological deficits, and kyphotic deformities of the vertebral column. Paraparesis (or paraplegia), which may be the first sign of CNS involvement, has been reported to precede apparent spinal deformity; the degree of neurologic deficit has also been cited as a prognostic indicator.2 Isoniazid neurotoxicity, suspected by this patient's physician, produces a pyridoxine-dependent generalized peripheral neuritis.

Antituberculous chemotherapy remains the mainstay of management in Pott's disease. In this case, the drained paraspinal abscess was sterile, supporting the observation that colony counts of



Figure 3. Postsurgical lateral film demonstrates wedging of D-9.

Mycobacterium tuberculosis in bone cultures tend to be low.2 Orthopedic stability was afforded by a dorsal spinal fusion with Harrington rod placement (Fig. 3) and bone graft. With the indicated medical and surgical interventions, this patient's neurologic and orthopedic status improved significantly, and during the three years of posttreatment follow-ups the patient remained stable.

This case emphasizes both the need for continued physician awareness of extrapulmonary tuberculosis and the importance of the lateral chest film in the complete evaluation of thoracic pathology.

DIAGNOSIS: Tuberculosis of the spine (Pott's disease) with compression fracture of D-9.

REFERENCES

- 1. Teplick JG, Haskin ME: Roentgenologic Diagnosis, ed 3. Philadelphia.
- W.B. Saunders. 1976, pp 577-591.
 2. Gorse GJ, Pais MJ, Kusske JA, et al: Tuberculous spondylitis: a report of six cases and a review of the literature. *Medicine* 62:178-193, 1983.
 3. Tuli SM: *Tuberculosis of the Spine*. New Delhi, Amerind Publishing Co.
- 4. Des Prez R: Extrapulmonary tuberculosis, in Wyngaarden JB, Smith LH (eds): Cecil Textbook of Medicine, ed 16. Philadelphia. W.B. Saunders, 1982, pp 1548-1554.

JULY, 1985

DAVID T. MILTON, M.D. and STEPHEN L. GAMMILL, M.D.

A 53-year-old woman had abdominal pain. Two images from an abdominal CT scan after oral contrast administration are shown (Figs. 1 and 2). The most likely diagnosis is:

- (1) Leiomyoma of the stomach
- (2) Leiomyosarcoma of the stomach
- (3) Carcinoma of the pancreas
- (4) Lipoma of the stomach

Discussion

Both images show an extraluminal mass that displaces the contrast-filled stomach posteriorly. It measures approximately 18 cm in greatest dimension and is of mixed attenuation. This was a leiomyosarcoma of the stomach.

Leiomyosarcomas are malignant tumors arising from smooth muscle of the gastrointestinal tract. Of these, 60% arise in the stomach, but gastric leiomyosarcomas constitute only 0.5% of gastric neoplasms. Over half of these tumors exceed 10 cm at diagnosis. Size is important in the differential diagnosis of stomach tumors, since leiomyomas, although more common than leiomyosarcomas, rarely exceed 2 to 3 cm in diameter. 1.2

Patients frequently complain of upper abdominal fullness or pain, and may have gastrointestinal bleeding. Most lesions are intramural, but the larger tumors are almost entirely extragastric. The body of the stomach is the most common location.³

Since leiomyosarcomas tend to grow as cohesive masses without the diffuse infiltrative characteristics of gastric carcinoma, many are amenable to surgical removal, yielding a 50% to 60% five-year survival rate. However, approximately one-half of these tumors have metastasized beyond the stomach at time of discovery. Direct extension into surrounding tissues is common, with the most frequent sites of metastases being liver, omentum, and retroperitoneum.²

Computerized axial tomography is useful in showing the extent of the tumor, as well as frequently suggesting the correct diagnosis.

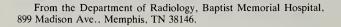




Figure 1. CT through the upper abdomen shows a large left upper quadrant mass that is separate from the liver and spleen. (L = liver, S = spleen).



Figure 2. CT scan more caudad than Fig. 1. The mass blends in with the wall of the contrast-filled stomach (st), and displaces it medially (arrows).

FINAL DIAGNOSIS: Leiomyosarcoma of the stomach.

REFERENCES

- 1. Moss AA, Gamsu G, Genant HK: Computed Tomography of the Body. Philadelphia, W.B. Saunders, 1983. p 562.
- 2. Robbins SL, Cotran RS: Pathologic Basis of Disease, ed 2. Philadelphia. W.B. Saunders, 1979, pp 945, 952.
- 3. Spjut HJ: Stomach and duodenal pathology, in Margulis AR. Burhenne HJ (eds): *Alimentary Tract Roentgenology*, ed 3, vol 1. St. Louis, C.V. Mosby. 1983, p 660.

High Risk Registry Update

FLORENCE B. ROBERTS, R.N., Ph.D.

The establishment of a High Risk Registry was a recommendation of the Governor's Task Force on Mental Retardation Prevention. Criteria for placement on the Registry were developed by several committees and then narrowed down to three criteria: (1) very low birth weight (1,500 gm or less); (2) low Apgar (5 minute Apgar of 5 or less if the baby weighs 2,000 gm or more, Apgar of 3 or less if baby weighs less than 2,000 gm); (3) family member with hearing loss since early childhood. These criteria were chosen because they can be obtained easily from birth certificate data. It is expected that the Registry will be expanded after it is well established.

The reason for having a High Risk Registry is to be sure that children at risk receive the best possible follow-up care. A critical aspect of the Registry is the establishment of a medical home for the infant, with well-directed and coordinated case management 24 hours a day, seven days a week. It is our hope that physicians will assume case management for these infants, with support services available from the Health Department as requested by the case manager. For instance, the Health Department can assist the physician by (1) helping parents get established with the medical home provider; (2) helping the parents keep appointments with the medical home provider; (3) helping the parents make and keep appointments for follow-up with specialists; (4) visiting the parents at home to assess the home situation, help the parents carry out recommended treatment (e.g., giving medications), teach the parents day-to-day care of the infant (following protocols approved by the physician), provide support to anxious parents, teach the parents infant stimulation techniques (on approved protocols), assess the condition of the infant in relation to specific concerns of the physician; (5) providing specific services upon request, such as audiometric screening, developmental screening, immunizations, educational screening during the preschool years to identify potential school prob-

From the Tennessee Department of Health and Environment, Nashville.

lems, and assisting the physician in referring children for educational services.

In some geographic areas there may not be enough physicians to provide case management for all the high risk infants. In those areas the Health Department is willing to provide case management in conjunction with a physician or clinic that can provide coordinated acute care services. It is the philosophy of the Department that high risk infants should be followed according to the recommendations of the physicians who care for them, including recommended NICU follow-up assessments.

An infant's participation on the Registry will require consent from both the parents and the medical home physician. Health Department nurses will contact parents after the birth certificates are filed in the county health departments. In some regions where special arrangements have been made, parents may be contacted at the hospital where the infant is born. The parents will be asked if they have a medical home for the infant, and every effort will be made to help them get to a physician if they do not already have one. The services available through the Registry will be explained, as will the necessity for physician consent. The parents may refuse to participate by saying that they do not want the services. Physicians may do likewise, if they desire, although we believe that our working together will enhance the services that can be provided.

We encourage physicians to talk with their patients about the Registry before they contact the Health Department. Obviously, it will be very important for birth certificate information to be filled out accurately and for parents to be told of their babies' high risk. If Health Department nurses are routinely contacting parents at the hospital in your region, and if you have parents who in your judgment should not be contacted for the Registry, please notify the county health department and the nursery staff at the hospital.

We look forward to working closely with Tennessee physicians. Cooperation is the only way the Registry can be successful in helping meet the needs of high risk children in Tennessee.

The Good Doctor—The Bad Result

J. KELLEY AVERY, M.D.

We will depart from our usual custom of presenting a "fictionalized" Tennessee case and use a case from Florida recently reported in the press. Perhaps you read it.

The case was a tragic example of a relatively routine surgical event ending in catastrophe.

The patient was undergoing surgery for cancer that apparently had involved the eye. Since the dura was to be opened during the operation, some spinal fluid was removed preoperatively, the syringe labeled "CSF" was set aside for reinjection at the end of the procedure. Sometime during the surgery, an ophthalmologist brought to the operating room an unlabeled vial of glutaraldehyde to be used to preserve the eye tissue removed at surgery. Somehow this vial of clear solution was also labeled "CSF" and at the close of the procedure both the real cerebral spinal fluid and the mislabeled glutaraldehyde were reinjected into the patient. The result was coma and death within a few days.

The surgeon, faced with the awful truth, responded in his own grief, "I accept full responsibility." This was the reaction of a good doctor motivated by all the very deep emotions that make for a good doctor/patient relationship responding in a way that could be legally devastating.

The surgeon reacted, almost automatically, out of his training and experience; he looked at this tragic result and asked himself the searching question, "What could I have done differently that might have prevented my patient's injury?" Every good physician goes through the same soul searching when confronted with a bad and unexpected result. All our clinical pathology conferences and morbidity and mortality conferences are pointed in this direction. There is probably no other way to become a good physician. We know that there is always something that we did or something that we did not do that might have made the difference. So we can hear ourselves saying, "I accept full responsibility."

Obviously, this surgeon was not "fully responsible" in a legal sense. He may well have had no legal responsibility. There was the ophthalmologist who dropped off the unlabeled toxic substance. There was the surgical team who obviously handled and labeled the real CSF. It is unlikely that the surgeon himself personally supervised the adding of the toxic material to the real CSF for injection into the patient.

One thing is certain; when our treasured ethical concerns for the patients we serve are translated into the adversarial arena of the legal process, they simply do not fit. To remember this is to avoid the understandable but legally damaging way this surgeon reacted.

Dr. Avery is medical director of State Volunteer Mutual Insurance Company.

president's page



CLARENCE R. SANDERS

Our Declining Image

For some time now I have become increasingly concerned with the speed at which the medical profession is losing favor with the general public. At one time, no other profession enjoyed the esteem and the respect that we, as practitioners of this most noble of professions, were privileged to do. But, alas, that is not the case today. Deservedly or otherwise, we are simply not held in the same high regard that our predecessors were and, in most instances, this low image is not rightfully earned. The great majority of physicians are dedicated, honorable, and upstanding individuals but, as the old maxim maintains, "One bad apple can spoil the whole barrel," and this is as true of doctors as it is of apples.

There is no one real solution to the problem, but we as individual practitioners can make a concentrated effort to improve our own personal and professional images. We can so conduct ourselves and our practices that there exists no shadow of suspicion as to our primary objective in practicing medicine. Public opinion today would label us all collectively as golf-playing, tax-shelter-seeking, money-hungry professionals operating only to make a quick profit and, to most of us, this assessment is grossly unjust. All of our years of intense study, really hard work, and quite often deprivation for ourselves and for our families, have not been expended merely to make money, although it is necessarily one of our considerations. It goes much deeper than that. The deep sense of fulfillment and satisfaction gained from helping to relieve suffering and pain is well worth much of the effort exerted.

Years of neglect and erosion have created our present plight and it is not simply going to disappear overnight. The problem is being addressed, however, and I commend and congratulate the Chattanooga and Hamilton County Medical Society for being the first society in our state to appoint a Health Care Delivery Task Force to support physicians in their efforts to cope with changes that are rapidly occurring. One of the primary objectives will be to deal with our professional "image gap." This program has thus far proved to be most successful and effective.

The TMA Board of Trustees at the recent annual meeting was charged with establishing an ad hoc committee to deal with the public image of physicians. Hopefully, using the experiences of the Chattanooga and Hamilton County Medical Society, the committee will conduct a statewide patient education program to focus on the human aspects of medical care and the physician-patient relationship. It will equip the membership with the tools necessary to compete effectively and to regain the public trust as the objective and concerned patient advocate.

I am convinced that with the diagnosis made, the Tennessee Medical Association and its collective and individual membership can close the "image gap."

clarence R Sanders MP

journal of the tennessee medical association

PUBLISHED MONTHLY

DEVOTED TO THE INTERESTS OF THE MEDICAL PROFESSION OF TENNESSEE

OFFICE OF PUBLICATION: 112 LOUISE AVENUE, NASHVILLE, TN 37203

JOHN B. THOMISON, M.D., EDITOR
ADDISON B. SCOVILLE, JR., M.D., ASSOCIATE EDITOR
JEAN WISHNICK, MANAGING EDITOR

Acceptance for mailing at special rate of postage provided for in Section 1103, Act of October 3, 1917, authorized July 15, 1932

Capyright for protection against republication Journals of the American Medical Association and of other state medical associations may feel free to quote from this Journal whenever they desire merely giving credit to this publication

Address papers, discussions and scientific matter to John B Thomison, M.D., Editor, P.O. Box 70, Nashville, TN 37202

Address organizational matters to L. Hadley Williams, Executive Director, 112 Louise Avenue, Nashville, TN 37203

COMMITTEE ON SCIENTIFIC AFFAIRS

OSCAR M. McCALLUM, M.D., Chairman, Henderson SIDNEY L. BICKNELL, M.D., Jackson CLAUDE H. CROCKETT, JR., M.D., Bristol WINSTON P. CAINE, M.D., Chattanooga TED W. HILL, M.D., Gallatin FRANCIS W. GLUCK, JR., M.D., Nashville JOHN B. THOMISON, M.D., Nashville, Ex-Officio

JULY, 1985

editorials

In the Name of the Law

The Law giveth and the Law taketh away. Blessed be the name of the Law.

With apologies to the KJV

The Constitution of the United States, as well as those of the several states, charges the legislative branch with enacting the necessary legisla-

tion for protecting the populace. Through the years those bodies have enacted a plethora of statutes, some of them appropriate and some not; some are just plain meddlesome. Contrariwise, some of the things we most need protecting from go unhindered for various reasons, one of the main ones being pressures from what is referred to as special interests.

In the not so good "Good Ole Days," for example, as one physician put it, "any farm boy too lazy to plow corn might procure a horse, a pair of saddle bags, a lancet, a few dollars' worth of drugs, a copy of Gunn's *Domestic Medicine*, hang up a shingle naming himself a doctor, and begin the practice of medicine." And they did, too. Traveling medicine shows sold "snake oil" by the gallon. Its formula varied, but it could be counted on to have a high alcohol content. Most of it never hurt anybody, but it didn't help much, either, though of course neither did very many of the "established" remedies; some of them were also not so safe.

Be that as it may, beginning in 1817 the legitimate practitioners of medicine, i.e., those who had studied prescribed courses in medicine and had a diploma to prove it, began a movement to require such preparation of anyone calling himself a doctor. The Legislature, however, looking upon the doctors as simply one of those groups out to protect their own interests and not those of the public (a charge that has come up once or twice since), demurred repeatedly, and it was not until 1889 that a licensing statute was enacted requiring legitimate training in medicine to engage in its practice.

The licensing laws in Tennessee and elsewhere have had their ups and downs, and more recently regulatory agencies have also entered the arena, so that at present medicine is being torn asunder by overregulation on the one hand, with demands to get its house in order, and on the other hand orders from other regulatory agencies forbidding it to do so, declaring all such activities to be in restraint of trade.

The influx of graduates of foreign medical schools that began with Hitler's rise to power in the 1930s became a flood in the '50s; it was encouraged because of the alleged inability of our own schools to meet public needs. Since ensuring comparability of medical education was not possible in all cases, to protect the public, examinations were devised for ensuring that knowledge was comparable. Omitting the tortuous steps that led to today's licensing requirements, I will only

say that licensure in Tennessee requires among other things that the licensee pass either the National Board Examinations, or the Federal Licensing Examination (FLEX) devised by the Federation of State Licensing Boards.

For what I am about to say, it needs to be clearly understood that what constitutes the requirements for licensure of physicians, both collectively and individually, rests solely with the Legislature. The function of the State Medical Licensing Board is only to ensure that each licensee meet those requirements. If the Legislature were to decree, for example, that because he is a kind man Roy Acuff should have a medical license, they could grant him one, and nothing could stand in his way except the Governor's veto, assuming he wished to exercise it; the Legislature could override that if it wished. The Legislature can even abolish the Licensing Board.

Yielding to pressure from a group of politically powerful citizens, the Legislature in its wisdom temporarily lowered the passing grade for the FLEX examination to allow licensure of an individual certified by that pressure group, who have no medical knowledge, as being worthy of an unrestricted license to practice medicine in Tennessee so that he could treat them without their having to go out of the state. Standards were lowered in the face of all medical advice to the contrary. The Governor did not choose to exercise his veto power.

Now I do not know anything about the qualifications of the doctor. I know only that he is alleged to have graduated from an unaccredited school somewhere in the British Isles and that he failed to pass the FLEX examination. Furthermore, he has not been able to obtain a license in any other state. He may be perfectly capable of practicing medicine, and may for that matter be a better doctor than some of our homegrown ones. That, however, is beside the point. The point is that in yielding in such a manner to pressures from a totally uninformed group, the Legislature has set a dangerous precedent.

The Legislature has always set the standards for licensure, if there were any at all. It can do as it pleases. A citizen's only recourse is to vote them out if they displease him sufficiently, and the legislators apparently count medicine's pressure as less onerous than that of some others. The public, however, has not been well served, and that makes it just that much harder for us—and for the Licensing Board—to protect them.

Letting my fingers walk through my new "yel-

low pages" the other day turned out to be a shocking experience. Bursting from the pages were countless lurid red and black on yellow ads hawking the wares of the various hospitals and clinics of the city. Those "wares" happen to be doctors—your colleagues—maybe you—*likely* you. It seemed demeaning, but perhaps I am just old fashioned.

Medicine, and doubtless the public as well, will survive the Legislature's rebuff. But as I thought about that, and about my walk through the yellow pages, I got the uncomfortable feeling that snake oil is coming back. This might not have been so bad had it not also occurred to me that instead of *peddling* the snake oil, we *are* the snake oil.

J.B.T.

Remove Not the Ancient Landmarks . . .

In the beauty of the quiet English countryside stand the stark ruins of Glastonbury Abbey. A simple marker at its center proclaims that here from 1278 to 1539 rested the remains of King Arthur and his queen. Where they are now no one knows, but I hope they still rest. Since for every event commemorated by a monument there are those who would have it forgotten, it is a wonder any monuments survive. Few, in fact, do—at least for long and intact.

To the hills of Somerset, in ancient times an island known to the Celts as the Isle of Avalon, came Joseph of Aramathea, so the ancient story goes, bearing the sacred chalice from which Christ supped with his disciples on the evening before his crucifixion. The church Joseph built there is claimed by legend as the origins of Christianity in Britain, and later its haven from the pagan Saxon invaders. In 1191, during the building of the most recent structure to replace the first Norman Abbey, lately destroyed by fire, a tomb was discovered in the Lady Chapel bearing a Latin inscription which translated read, "Here lies Arthur, the once and future King." Into the magnificent new Abbey Church in 1278 King Edward and Queen Eleanor brought the exhumed bodies of King Arthur and his queen to be enshrined in a grand black marble tomb just east of the crossing, beneath the central tower.

JULY, 1985 447

Precisely who Arthur was and when and where he reigned and died lies enshrouded, with most of human history, in deep shadow that is only infrequently enlivened by lightning flashes or the glow of fading embers. In the fifteenth century Sir Thomas Malory fanned the Arthurian flame to blossoming chivalry, to be embellished some four centuries later by Tennyson and the lustrous art of the pre-Raphaelites. Of all the proposed sites for Camelot and Avalon, the pull of Somerset remains the most persistent, and evidence the most compelling. More prosaically, Arthur is thought to have been the Briton leader (chieftan? king?) who drove back the invading Saxons at the battle of Badon somewhere around the year AD 500. Romantic legend has it that after a fatal battle some years later he was taken to Avalon, from which one day he would return to once again save Britain from extinction. Some hold that has already happened. If only . . .

Almost every event—personal, national, and universal—is overshadowed by a sigh of, "If only . . ." Whether the sigh is one of relief or of anguish, it nevertheless reflects a weighty consideration. If only King Henry VIII had not been such a bloodthirsty villain, there might be no mystery of Arthur. But Henry was, and so upon his separation of the Church in England in 1539 from that of Rome, Henry set about expunging all souvenirs of that connection by first dissolving the monasteries and distributing their properties to his henchmen. Some were used as private dwellings; some were simply pulled down. What Henry and his goons left was for practical purposes finished off in another hundred years by another bloodthirsty villain and his own goon squads. Between the Civil War, begun in 1688 by the Parliamentarians, and the Glorious Revolution that ended with the restoration of an abridged monarchy in 1688, Oliver Cromwell and his roundheads pulled down anything that reminded them of papism, which seems to have been nearly everything. Henry and Cromwell were not alone, however, since before Henry VIII other Henrys and kings and nobles with other names fought their own battles and wreaked their own havoc.

In any event, if only Henry VIII had not pulled down the splendid Glastonbury Abbey, it likely would have fallen to Cromwell, or perhaps to Nazi bombing. Though Arthur remains in the shadows, along with Joseph of Aramathea and the Holy Grail, other things do not. Henry did have the abbey pulled down, and its Abbot,

Richard Whiting, hanged, drawn and quartered. The ruins were subsequently used as a quarry for constructing later buildings.

On a hill above Glastonbury, known simply as Glastonbury Tor (a Celtic word meaning "hill"), Joseph buried the chalice, whence it is said sprang a spring of blood. On this site the Church of St. Michael was built; it was the spot chosen by Henry for the Abbot's execution. Only the tower remains today, a finger pointing toward heaven as a witness to those bloody deeds. Precipitous and gale swept, the grassy hillsides are kept closecropped by grazing flocks that are seldom disturbed by human company, most of it local, as few tourists venture up the forbidding slopes, now a property of the National Trust. Poor travelers. who view only the usual and are deprived of the truly spectacular! Guides discourage such forays, and seldom allow time for them. From the foot of St. Michael's tower the vista of Arthur's island valley of Avalon, with its abbey ruins and its tranquil town, is one of awesome grandeur, one that prompts the viewer to believe for the moment that the once and future king might instantly emerge to claim his fiefdom. It would be a propitious time.

The British are good rebuilders, and much of history's destruction has been remedied, but Glastonbury's ruins remain ruins. Perhaps that is appropriate. The legendary Arthur fires the imagination. The historic Arthur might contrariwise have become, like others associated with Glastonbury—St. Dunston, who built the first stone church, the Saxon Kings Edmund, Edgar, and Edmund Ironside, who were buried there, and even the ill-fated Richard Whiting—simply a dull historic fact, and any expectation of the future king, even though today it remains merely a glimmer, extinguished.

"Thou shalt not remove the landmarks which they of old times have set for thine inheritance," was an injunction given the children of Israel as they entered the Promised Land. The injunction had to do with markers on grazing lands, which were their livelihood and their heritage. We still need our ancient landmarks, both as reminders of our heritage and as guideposts to the future. They may be either tangible or not; they may be material or spiritual. We need them all. They are removed or tampered with to our impoverishment. Glastonbury Abbey intact would be another magnificent edifice; its ruins are a monument to power misapplied, a trust abrogated. Intact it would be a monument to man's artistry;

ruined it is a monument to the destructive power resident within him. Removed, it would simply fade from memory, and any meaning with it.

As a voung nation we are slow to recognize our heritage, and in the name of progress one historic structure after another has been pulled down, lost forever. Gone. There are pressures all around us that endanger preservation and conservation. Population growth continually diminishes available land, and it is tempting to replace a low historic structure with a modern highrise. Advanced technology has its price, prominent in it the production of toxic wastes, the disposal of which has become a pressing problem. The ready availability of materials from our forests and the earth beneath us is a necessity for our continued luxury. The battle has reached fever pitch between conservationists and preservationists on the one hand, and developers and exploiters on the other. Few in either camp employ a whole lot of wisdom or restraint in either their claims or their demands.

President Theodore Roosevelt instituted a system of national parks and forests, placing in them vast tracts of undeveloped land, particularly in the largely uninhabited western states and territories. With increasing public demands, however, raids on those lands are increasing, and rising costs and government penury have diminished maintenance, sometimes to substandard levels. Wilderness areas are being threatened by tourist and land development pressures, and the budget-conscious Administration is unfriendly.

The Nature Conservancy is a private land conservation organization with corporate and individual membership that purchases or receives as gifts important tracts of undeveloped privately held lands, ultimately placing them in established management systems, such as the state park system. An example in Tennessee is the Savage Gulf Area at Beersheba Springs near McMinnville, which was purchased by the Conservancy and placed for management within the Tennessee State Park System. Avoiding the stridency that characterizes most of the conservation groups, the Nature Conservancy has quietly gone about the business of ensuing preservation of important natural areas, counterbalancing dwindling federal holdings.

A newer but nonetheless important preservation organization is the National Archaeological Conservancy, which is doing for our ancient American landmarks what the Nature Conservancy is doing for our natural heritage. It has acquired, for instance, important Hopewell sites in Ohio and pueblos in the four corners area outside the Canyon de Cheilly National Monument. As with the natural areas, they have been placed for management in the appropriate state park systems.

The National Registry for Historic Places has been helpful in identifying structures that should be preserved, but contrary to popular belief it does nothing to ensure their preservation. This must be accomplished by other means. To this end most communities have established foundations to acquire frequently delapidated historic properties, often in deteriorating neighborhoods. Usually after basic restoration the structures are sold to individuals or corporations contingent upon their completed restoration. Whole neighborhoods have thus been restored. The foundations generally retain the most important structures for public use. The National Trust for Historic Preservation has purchased and maintains for public viewing many of the larger, more important historic homes and estates throughout the nation. This privately funded organization deserves broad support.

This month we commemorate the first of a series of events that culminated in the foundation of the limited States of America. A decade afterwards the federation nearly dissolved as its delegates struggled to frame a working document for its governance. Both the federation and its Constitution have been sorely tried many times since. Though dissolution of the federation is now unlikely, as its results would be utter chaos in any area you can think of, incursions against the Constitution continue. It is continually being tinkered with by the Supreme Court in an attempt to accommodate the disparate longings and antipathies of our polyglot population, made up as it is of myriad minority groups. Any one of us is, in fact, a member of numerous ones, often with wishes that are incompatible in a given situation. That sometimes makes for strange bedfellows.

We need to do everything we can to preserve our ancient monuments, material and spiritual, tangible and intangible, which are a renewable heritage for every generation. This implies supporting organizations, both local and national, that have been incorporated for that purpose. It may sometimes mean being accused of impeding progress; we need at such times to remind ourselves and others that not all change is necessarily progress, and to that end to pray for the wis-

JULY, 1985 449

dom to distinguish between real progress and mere change. Since the cost of preservation may often be great, we need also to remind ourselves and others that it always costs more to replace than preserve, whether it be a building or our freedom; some things indeed are not renewable or replaceable at all.

Especially on Independence Day, but indeed on each day of our lives, in giving thanks to God we should remember our nation, and should "therefore highly resolve that . . . under God [it] shall have a new birth in freedom, and that government of the people, by the people, and for the people shall not perish from the earth." We might also add a word for our ancient landmarks, which among those other things, also include our Constitution and the Declaration of Independence, as well as such things as Lincoln's Gettysburg address.

J.B.T.

Guest Editorial

Medicine has in times past been considered both a science and an art. Science implies accuracy, clarity, and precise communication. In recent years the proliferation of acronyms has reached epidemic proportions.

It seems that each new generation of young physicians invents a new group to reduce the necessity for writing. This in itself is bad enough, but we are beginning to speak in the alphabet as well, so that communication between physicians in different specialties, and in some cases within the same specialty, has become difficult if not impossible.

Concern is being expressed across the country about the proliferation of acronyms or, as one physician has called it, "call letters." A recent article in the *Journal of the South Carolina Medical Association* included a history and physical examination that was alphabet soup and necessitated an accompanying key to the various symbols. Of course, this was published to emphasize the dangers of the use of acronyms.

It seems that the most dangerous area in the use of acronyms as far as the patient's welfare is concerned is the order sheet. Nurses must either continue to expand their knowledge of these acronyms or take time to call a physician and ask him what "xyz" means. Of course these are sub-

ject to misinterpretation by a busy nurse who thinks she knows what the doctor wants, when actually in his particular specialty "xyz" means something entirely different than in another specialty.

Responding to a resolution adopted by the TMA House of Delegates, the chairman of the Board of Trustees of the Tennessee Medical Association appointed a committee in May 1984, with me as chairman, to study this problem and try to formulate some standardization at least within the state of Tennessee. This committee found that the number of acronyms approved in the various teaching hospitals within the state was overwhelming.

One problem seems to be that the Joint Commission on the Accreditation of Hospitals states that any set of acronyms that is approved by the records committee of that hospital is acceptable. One approved list that we obtained contained 1,108 different abbreviations, acronyms, and "call letters."

In my opinion students enter medical school totally devoid of addiction to these acronyms. Therefore, it seems that the place to stop the spread of this plague, and hopefully eliminate some of the confusion, is in the medical schools. If the deans and the professors would require students to write out words rather than use the acronyms and symbols, we would make a start on returning hospital charts to some semblance of the scientific and legal documents they are supposed to be.

John L. Farringer, M.D. 1919 Hayes St. Nashville, TN 37203

new member

The JOURNAL takes this opportunity to welcome these new members to the Tennessee Medical Association.

CHATTANOOGA-HAMILTON COUNTY MEDICAL SOCIETY

Carl Randall Adkins, M.D., Chattanooga Robert A. Drake, M.D., Chattanooga Selmon T. Franklin, III, M.D., Chattanooga Donald R. Lechler, M.D., Chattanooga

COFFEE COUNTY MEDICAL SOCIETY Irvin E. Plank, M.D., Manchester

KNOXVILLE ACADEMY OF MEDICINE

R. Screven Farmer, III, M.D., Knoxville Randolph M. Lowry, M.D., Knoxville Howard B. McNeeley, M.D., Norris Louis A. Smith, M.D., Knoxville

NASHVILLE ACADEMY OF MEDICINE

Jeffery Bein Eskind, M.D., Boston, MA Michael C. Garovich, M.D., Nashville David William Haas, M.D., Nashville Aileen Hood McAlister, M.D., Nashville William Arthur Nylander, M.D., Nashville John R. Potts, M.D., Nashville Margaret M. Stolz, M.D., Antioch Elizabeth A. Szalay, M.D., Nashville

WASHINGTON-UNICOI-JOHNSON COUNTY MEDICAL ASSOCIATION

James McJannett Turnbull, M.D., Johnson City

perronal news

Harvey W. Bender, Jr., M.D., Nashville, has been elected to serve as College Governor for the state of Tennessee by the American College of Cardiology. Dr. Bender is currently chairman of the department of cardiac and thoracic surgery at the Vanderbilt University Medical Center, Nashville.

Eric L. Dyer, M.D., Nashville, has been certified by the American Board of Internal Medicine as a Diplomate in the subspecialty of Pulmonary Diseases.

John T. Purvis, M.D., Knoxville, has been elected to a three-year term on the board of directors of the American Association of Neurological Surgeons.

TMA Members Receive AMA Physician's Recognition Award

Fifty-two TMA members qualified for the AMA Physician's Recognition Award during April 1985. To qualify for the PRA, a minimum of 150 hours of continuing medical education must be earned over a three-year period; 60 of these hours must be Category 1.

This list does not include members who reside in other states. Names of additional PRA recipients will be published as they are received from AMA.

Nuggaehalley K. Bhagavan, M.D., Gallatin Joel S. Birdwell, M.D., Tullahoma James W. Bonds, M.D., Dyersburg Robert W. Booher, M.D., Louisville James R. Boyce, M.D., Athens James D. Bryant, M.D., Nashville Billy L. Couch, M.D., Humboldt James P. Craig, M.D., Johnson City Buford P. Davis, Jr., M.D., Pulaski Joseph C. DeFiore, Jr., M.D., Knoxville David N. Dyer, M.D., Nashville Raymond A. Finney, Jr., M.D., Maryville Hiranya C.K. Gowda, M.D., Nashville Mark S. Grimsley, M.D., Hixson William H. Hartmann, M.D., Nashville Steven E. Hawk, M.D., Carthage Douglas C. Henry, M.D., Nashville Stephen L. Hines, M.D., Nashville Michael T. Hood, M.D., Newport Larry D. Hudson, M.D., Johnson City C. Gary Jackson, M.D., Nashville Antoine Jean-Pierre, M.D., Memphis Edward S. Kaplan, M.D., Memphis Howard S. Kirshner, M.D., Nashville Robert E. Maddox, M.D., Kingsport George W. Marten, M.D., Memphis

Brian E. McCrudden, M.D., Jackson Carroll W. McGinnis, M.D., Knoxville Thomas B. McGinnis, M.D., Johnson City Dannie C. Middleton, M.D., Nashville Marion R. Moore, M.D., Memphis William J. Moss, M.D., Chattanooga William M. Murphy, M.D., Memphis James D. Panzer, M.D., Cookeville Thomas F. Parrish, M.D., Nashville Thomas G. Peters, M.D., Memphis Richard D. Pinson, M.D., Nashville James R. Quarles, M.D., Springfield Charles J. Ray, M.D., Chattanooga Robert D. Reeves, M.D., Murfreesboro Leon L. Reuhland, M.D., Woodbury Henry W. Scott, Jr., M.D., Nashville James C.H. Simmons, M.D., Memphis Bradley E. Smith, M.D., Nashville Thomas A. Smith, M.D., Winchester Charles J. Stahl, III, M.D., Johnson City Raj K. Stephens, M.D., Germantown James H. Thomas, M.D., Savannah James R. Tindall, M.D., Morristown Joe K. Wallace, M.D., Crossville John M. Wilson, M.D., Memphis Michael J. Winsor, M.D., Kingsport

announcement.

CALENDAR OF MEETINGS

NATIONAL

Aug. 4-8	North American Symposium on Dialysis and
	Transplantation—Stouffer's Waielea Beach
	Hotel, Maui
Aug. 7-10	National Medical and Dental Association—
<u> </u>	Williamsburg Inn, Williamsburg, Va.
Aug. 18-21	Midwest Surgical Association—Interlaken
6:	Lodge/Villas, Lake Geneva, Wis.
Aug. 18-22	American Society for Pharmacology and
	Experimental Therapeutics and American
	Chemical Society-Division of Medical
	Chemistry, Sheraton, Boston
Sept. 4-6	American Paraplegia Society—Las Vegas
	American College of Emergency Physi-
Sept. 9-12	
Comt 12 14	cians—MGM Grand Hotel, Las Vegas
Sept. 12-14	American Association for the Surgery of
	Trauma—Westin Hotel, Boston
Sept. 18-20	Clinical Orthopaedic Society—Hyatt Re-
	gency, Birmingham
Sept. 21-25	Association of Medical Illustrators—Hyatt
	Regency, Cincinnati
Sept. 26-Oct. 1	Association of American Physicians and
	Surgeons—Inter-Continental, Maui
Sept. 27-Oct. 2	American Fertility Society—Marriott Hotel,
	Chicago
Sept. 29-Oct. 3	American Academy of Ophthalmology—
	Moscone Center, San Francisco

Sept. 29-Oct. 4 American Academy of Physical Medicine and Rehabilitation—Hyatt Regency, Kansas City, Mo.

Sept. 29-Oct. 4 American Society of Therapeutic Radiology and Oncology—Fontainebleau Hilton, Miami Beach

Sept. 29-Oct. 4 Congress of Neurological Surgeons—Sheraton Waikiki, Honolulu

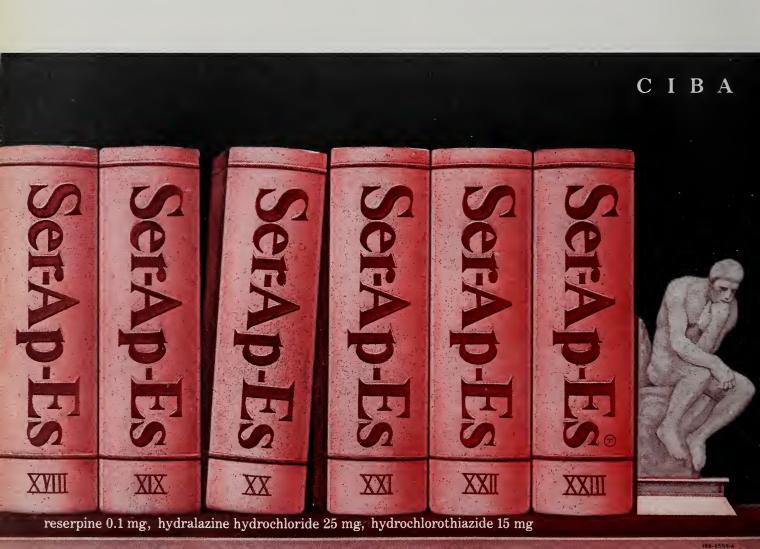
STATE

Sept. 23-28 National Association of Medical Examiners—Peabody Hotel, Memphis
Sept. 30-Oct. 1 Tennessee Valley Medical Assembly—Chattanooga Choo Choo

- FOR RENT -

OCEAN FRONT CONDOMINIUM HILTON HEAD ISLAND SOUTH CAROLINA

For information contact:
Tom Reed
Attention: Frankie Parton
117 East Main Street
Murfreesboro, TN 37130-5055
Telephone: (615) 890-6464



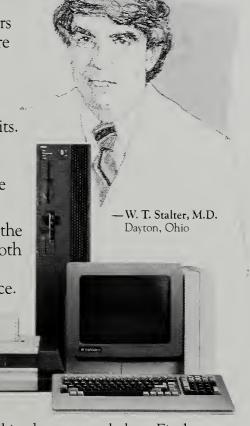
"For a total computer system package, our medical practice recommends Reynolds+Reynolds."

"We'd been researching computers for over two years ... even attending office automation seminars. We're absolutely delighted with our Medical Practice Mangement System from Reynolds and Reynolds.

"The system has eliminated our insurance backlog. Now we can file claims the same day the patient visits. The credit and collection tools improve day-to-day collections and give us strong follow-up for past-due accounts. Staff productivity has increased across the board, allowing for optimal patient care.

"The dedication, excellence and professionalism of the Reynolds' training and support staff made for a smooth transition when the practice converted. They truly understand the needs of today's busy medical practice.

And it's especially comforting to have our investment protected by a company that is national in scope and local in commitment."



For a free analysis of your medical practice, just send in the coupon below. Find out what Reynolds and Reynolds' family of single and multi-user Medical Practice Management Systems can do for you.

L١	T.	, IN	C.

Computer Consulting 2000 Commerce Union Towers Chattanooga, Tennessee 37450 Telephone: (615) 755-6904

an authorized agent for Reynolds+Reynolds®

Reynolds+Reynolds® is a registered trademark of The Reynolds and Reynolds Company.

Please contact me to arrange	for my	free practice analysis.

Please send me more information about your:

IBM PC AT single workstation Medical Practice Management System.

NCR Tower multi-user workstation Medical Practice Management System.

_____SPECIALTY: _ ___OFFICE MANAGER: . NO. OF PHYSICIANS: ___

ADDRESS:

BEST TIME TO CALL: TELEPHONE: _

*Registered trademark of NCR Corporation.

© Copyright 1985 The Reynolds and Reynolds Company. All rights reserved.

We're Hardware. We're Software. We're Everywhere.

JULY, 1985 459

Durable Medical Equipment Reimbursement Changes

DANIEL K. WILSON

Effective Feb. 1, 1985, the Health Care Financing Administration (Department of Health and Human Services) revised payment guidelines for all durable medical equipment (DME) payable under the Medicare program. The changes will cause physicians to change the way they write prescriptions in order to allow their Medicare eligible patients to be reimbursed for their DME expenses.

Medicare Part B pays for durable medical equipment which "(1) can withstand repeated use (2) is primarily and customarily used to serve a medical purpose (3) generally is not useful to a person in the absence of illness or injury, and (4) is appropriate for use in the home," i.e., hospital beds, wheelchairs, etc. The equipment may be rented or purchased.

Transmittal 1067 to the Medicare Carriers Manual changes the method of decision making as it relates to whether the item is rented or purchased. Prior to Feb. 1, 1985 the Medicare beneficiary made the decision to rent or purchase the item and Medicare paid accordingly. After Feb. 1, the decision to rent or purchase is still the beneficiary's, however it is not binding on Medicare as far as payment is concerned. Payment will be made based on the Medicare carrier's determination regarding the least costly method of payment (except for items costing less than \$120 which will always be purchased). As an example, a \$1,000 hospital bed [when the patient is expected to use the bed nine (9) months] Medicare reimbursement would have been:

	Purchase	Rent		
		Month	Total	
Billed charge	\$1,000	\$150	\$1,350	
Medicare allowance	\$ 900	\$140	\$1,260	
Medicare B payment	\$ 720	\$112	\$1,008	
Co-Insurance	\$ 180	\$ 28	\$ 252	

Mr. Wilson is regional reimbursement coordinator, National Medical Homecare, Indianapolis.

If it is known at the time the prescription is written that the patient will need the equipment for at least nine (9) months, Medicare would pay the purchase price allowed amount (\$900) and the patient would have an immediate \$180 co-insurance payment to make. If the patient still wants to rent the equipment regardless of Medicare's determination, Medicare would pay seven (7) months' rent (applied toward the purchase price) and the patient would owe the final three (3) months rent.

This change was made to facilitate the reduction of Medicare program expenditures.

In order that timely payments continue from Medicare on behalf of Medicare beneficiaries, physicians will be required to furnish more information than in the past. As in the past, a prescription is required for each item. Transmittal 1067 revises section 4105.2 of the Carriers Manual Claims Review and Adjudication Procedures to read:

"The physician's prescription should include the patient's diagnosis and prognosis, the reason the equipment is required, and the physician's estimate in months of the duration of its need. Where any of the above information is lacking, the carrier should make reasonable inferences from the other information on the prescription. If the information cannot be inferred and is not obtainable from the carrier's files or from other readily available sources, request the required information from the physician through written, personal, or telephone contact.

"Where the information cannot be obtained from the above sources, request the beneficiary or supplier-assignee to obtain from the prescribing physician a written statement containing this information.

"If, after obtaining the information, a question of medical necessity remains, the issue is resolved by the carrier's medical staff or other professional consultation. Where the evidence is insufficient to determine medical necessity, extend or limit development on the individual case by asking the prescribing physician to submit his objective findings establishing the severity of the patient's condition and the patient's immediate and/or long term therapeutic need for the equipment or asking the prescribing physician for a statement of

the therapeutic benefits he expects the patient to realize from the use of this equipment."

Most suppliers will work with the prescribing physicians to make sure that the information will be present on the initial and subsequent claims which show a continuing medical need. If the supplier does not submit the necessary documentation for medical need section 4105.2, B further states:

"In developing continuing medical need, make direct contact with the patient's physician. If information on continuing medical need is not received after the initial 30 days, send a follow-up letter to the doctor with a copy to the beneficiary indicating that payment will cease if a reply to the request for documentation of continued medical need is not received within thirty (30) days from the date of this letter."

Maintenance of purchased durable medical equipment is not covered and is an obligation of the patient. If a patient cannot perform routine equipment maintenance required to keep the unit properly functioning it must be so stated with the reasons explained. It is believed that Medicare will continue to allow rental which includes repair and maintenance. If a certain type of product is medically required it must also be stated in such instances in the prescription the reasons, i.e., liquid oxygen as opposed to high pressure tanks to support therapeutic ambulation or special add on equipment for a wheelchair. Supply companies can help determine when this may be required.

In order for this new program to work to benefit the patients a close cooperation between discharge planners, therapists, physicians and suppliers is imperative. Suppliers realize the increased burden on physicians and will develop methods to assist you to facilitate payment on behalf of the Medicare beneficiary.

If you have specific questions contact your Medicare carrier's provider relations consultant.

CUT the **COST** of your workers' compensation insurance with the Dodson Plan!

15% advance discount applies PLUS dividends averaging 23.5%



With Dodson, you also benefit these ways:

- Yearly dividend paid as earned at year-end, based on cost of claims from all insured.
- Quick, efficient claim handling, often completed within 48 hours.
- New, no-charge payment plans.

Write us or call toll-free for full details:

Insurance provided by

CASUALTY RECIPROCAL EXCHANGE

Member of Dodson Insurance Group P.O. Box 559, Kansas City, MO 64141 800-821-3760



SPRING 1985 REPORT

Dear Association Member:

Alamo Rent A Car is now offering their low guaranteed nationwide rates through December 31, 1985.

As an additional BONUS, take advantage of the special offers listed below when traveling to one of Alamo's many locations:

Additional program features include:

- 5 Minute (or less) Courtesy Bus Service at peak business arrival and departure times. No need to call for services.
- Express Check-In saves you a trip to the counter on your way to the airport. At Alamo, your receipt is already in your hand.
- New Luxury Fleet with the following special features:
- Automatic transmission
- Air conditioning
- Luxury velour interior
- AM/FM stereo
- Tiltwheel/power windows

RESERVATIONS

To receive your Association rate, you must make your reservation at least 24 hours in advance, request plan "BY" and give the I.D. number on your Alamo membership card. That's all there is to it!

Start saving as much as 30% the very next time you rent a car by calling your Travel Professional or Alamo at 800-732-3232.

ALAMO NOW GUARANTEES ASSOCIATION RATES THROUGH DEC. 31, 1985

1985 Car Models and Features	Na Daily	tionwide Weekly	Florida/Hawaii Weekly
Chevy Chevette (or similar)	^{\$} 19	\$ 89 ⁹⁵	\$ 79 ⁹⁵
Chevy Cavalier (or similar)	\$21	\$109 ⁹⁵	\$ 89 ⁹⁵
Cutlass Ciera (or similar)	\$23	\$129 ⁹⁵	\$ 99 95
Buick Regal (or similar)	\$25	\$159 ⁹⁵	\$119 ⁹⁵
Chevy Celebrity Wagon	\$27	\$179 ⁹⁵	\$129 ⁹⁵
Buick Riviera (or similar)	\$29	\$199 ⁹⁵	\$159 ⁹⁵

Surcharges will apply during peak periods. Car categories subject to availability.

Prices guaranteed through 1985. Gas, tax, rental deposit, optional Collision Damage Waiver
and Personal Accident Insurance are extra. 5 day minimum for weekly rate.

Low rates are guaranteed nationwide.

Every Alamo car comes fully equipped with free unlimited mileage, automatic transmission, air conditioning and AM/FM stereo.



DRIVE AN EASY BARGAIN. ALAMO.

FIRST DAY FREE OFFER

COMPACT CAR CATEGORY OR ABOVE. 2-DAY MINIMUM RENTAL MARCH 1 - AUGUST 31 FOR ASSOCIATION MEMBERS

Present this certificate on arrival at the Alamo counter at any location nationwide. Reserve 24 hours in advance. Be sure to use your Association I.D. Number and request Plan BY. Call your professional Travel Consultant

or Alamo at 800-732-3232.

93128

Association I.D. Number required to be valid.

The free day will be prorated against the total rental's time and mileage

Minutes of the Tennessee State Board of Medical Examiners Meeting

March 19, 1985

Members Present: I. Lee Arnold, M.D.

Duane C. Budd, M.D. John H. Burkhart, M.D.,

President

Howard R. Foreman, M.D.,

Secretary

Alvin J. Ingram, M.D.

Members Absent: Others Present:

Ray C. Hall, Director, Health

Related Boards

Patricia Newton, Attorney Mike Dunn, Administrative

Assistant

Marvelene Corcoran, Administrative Assistant Kimberly Thompson, Secretary

The meeting was called to order by Dr. John Burkhart, president, at 9:00 a.m. in a meeting room of the Hyatt Regency in Nashville.

Reciprocity applications of **Drs. Yeutot M. Antoine**, **Ada M. Fisher**, and **Hugh V. Townsend** were approved for Tennessee licensure.

Paul G. Hovsepian, M.D., a graduate of St. George's University School of Medicine in Grenada, West Indies, asked the Board to approve a Tennessee license. Dr. Howard Foreman noted that the Board has no knowledge as to the adequacy of the medical education at St. George's and moved to deny licensure at the present time but to reconsider the request once Dr. Hovsepian is within three months of completion of the AMA approved training program in which he is currently enrolled. Dr. Lee Arnold seconded and the motion passed by unanimous vote.

Marcel Y. Eluhu, M.D. was authorized to sit for Day 1 of the FLEX examination but was advised that passage will not automatically entitle him to a Tennessee license.

Mr. Luke Fortner addressed Board members regarding apparent instances of consumer protection regulations of the Hearing Aid Dispenser Board being violated by some otolaryngologists. For instance, the referenced regulations mandate a 30-day trail period for hearing aids, a bill of sale outlining terms and conditions of the sale, and continuing education for licensed hearing aid dispensers but some otolaryngologist employees are not meeting these standards. Following a discussion, the Board agreed to draft an official opinion for release which would require that any employee working for an otolaryngologist must meet the basic standards described in the Hearing Aid Dispensers regulations for consumer protection.

The Tennessee license of **Peter S. Roland, M.D.** was issued on May 30, 1984 with certain restrictions attached which directed cooperation with the Tennessee Medical Association Impaired Physician Program. Dr. Roland petitioned the Board for the lifting of all

restrictions. Following the wholehearted advocacy of Dr. David Dodd, director of the TMA Impaired Physician Program, the Board voted unanimously to lift the restrictions from Dr. Roland's license.

Nurse Practitioner/Prescription Writers. State Attorney Patricia Newton presented a proposed draft of Rules and Regulations governing the utilization and supervision of the services of a Nurse Practitioner/Prescription Writer for the Board's review.

A report of the Special Task Force on Fraudulent Medical Credentials of the Federation of State Medical Boards was studied and commended. The Board will seriously consider all recommendations. Additionally, letters of acknowledgement and appreciation are to be sent to the task force members which will also advise of the Board's intent to implement those recommendations deemed feasible.

Members of the Board praised Dr. Howard Foreman, secretary, for the exemplary manner in which he performs his many duties as secretary of the Board of Medical Examiners. It was noted that his diligence has resulted in no person ever having been licensed in Tennessee based upon fraudulent credentials.

In response to a request from Dr. Edward Wolfson, chairman of the Commission on Foreign Medical Education. Dr. Foreman volunteered to submit a list of foreign medical schools about which the Board has special concerns. The Commission intends to contact designated foreign schools to gather and validate information for all member medical boards.

Respiratory Therapists. A representative of the Tennessee Society for Respiratory Care had previously submitted a proposed legislative act authorizing an advisory council to the Board of Medical Examiners. However, the Medical Board had no input into the proposals, nor had it even seen the draft prior to its being submitted to the legislature. The Board requested that the proposed legislative bill be withdrawn until such time as it can determine whether the Board wishes to accept the concept of an advisory council on respiratory care becoming adjunct to the Medical Board. If such concept is adopted, the Board desires input into the proposals of the act.

Dr. David Dodd requested that **Dr. Phillip Morrison** be scheduled for a formal hearing at the Board's next meeting and the Board agreed to do so.

The dates of May 21 and 22, 1985 were established as dates for the Board to meet next.

Ray Hall, director of Health Related Boards, invited Board members to attend a conference (CLEAR) to be held in Nashville on April 14, 1985 with registration on April 13. Agenda items of particular interest are prescription abuse and dealing with the news media.

Attorney Patricia Newton presented a report of complaint cases closed.

The meeting adjourned at 11:00 a.m.

Tennessee Medical Association's

Exclusively Approved

DISABILITY INSURANCE & MAJOR HOSPITAL INSURANCE PROGRAMS

Administered By

Smith, Reed, Thompson & Ellis Co.

P. O. Box 1280 Nashville, Tennessee 37202 Phone 361-6846

Manager WILLIAM H. ELLIS, C.L.U.

Director of Sales
ROBERT K. ARMSTRONG

Underwritten

SINCE THE PROGRAM'S INCEPTION IN 1942

Ву

Commercial Insurance Company

Newark, New Jersey



AUGUST, 1985 VOL. 78, NO. 8

Gore-Tex Femoropopliteal Grafts:

Forty-Month Experience in a Community Hospital

JAMES E. CHAPMAN, JR., M.D. and JANIS A. MORGAN, R.N.

Introduction

This report analyzes the results of a 40-month experience with expanded polytetrafluoroethylene (Gore-Tex) grafts used in the femoropopliteal position by one surgeon in a community hospital setting. Gore-Tex conduits are especially satisfactory when preservation of the saphenous vein is a consideration or where operative time or lack of adequate saphenous vein is a consideration.

Materials and Methods

The patient population had a mean age of 70.65 and ranged from 43 to 88. The sex distribution was approximately equal (20 men and 16 women) and medical infirmities were as expected in this age group, 15 patients having insulin-requiring diabetes mellitus, 23 medically treated hypertension, and 19 known stable coronary artery disease. Nineteen of the patients were smokers. Operative indications included pain at rest or impending limb loss (27 legs), limiting claudication (17 legs), and fusiform superficial femoral artery aneurysms (both lower extremi-

ties in one patient). Distal arterial runoff was good (two or three vessels) in 35 legs and poor (one or no vessels or isolated popliteal segment) in the remaining legs (Table 1).

Forty-one of the grafts were placed above the knee and five below the knee. All patients were given aspirin and dipyridamole postoperatively. As the series is small, no attempt was made to

TABLE 1

GENERAL PROFILE OF THE PATIENT POPULATION SHOWING INDICATIONS AND AGE DISTRIBUTION

		Number of	Grafts: 46		
				Non-	
Male	Female	Diabetics	Smokers	Smokers	Unknow
59%	41%	37%	52%	41%	7%
		Age Dist	tribution		
40-49	50-59	60-69	70-79	80-89	Mean
Years	Years	Years	Years	Years	Age
7%	13%	13%	48%	20%	70.65
	Indicatio	ns		Run-Off	
Cla	udication:	41%	Blind Po	opliteal:	4%
Res	st Pain:	43%	0-1 Ves	sel:	20%
Ne	crosis:	11%	2 Vesse	el:	13%
Unl	known:	4%	3 Vesse	el:	63%
			Unknow	n:	0%

From the Department of General and Vascular Surgery, Methodist Medical Center of Oak Ridge, Oak Ridge, Tenn.

AUGUST, 1985 485

Reprint requests to Oak Ridge Surgical Clinic, P.C., 170 W. Tennessee Ave., Oak Ridge, TN 37830 (Dr. Chapman).

GORE-TEX GRAFTING/Chapman

correlate patency rates with the presence or absence of smoking or diabetes mellitus. Comparative data utilizing claudication versus limb salvage or degree of distal runoff could not be performed. Cumulative graft patency rates were calculated using the life table analysis method (Table 1, Fig. 1). Follow-up was maintained either by office visit or in some cases by telephone contact with the patient. Graft occlusion was determined by Doppler assessment, including noninvasive vascular laboratory testing, loss of previously palpable pulses, or return of symptoms, or by standard arteriography.

Results

Both the immediate operative mortality rate (less than or equal to 30 days) and the late mortality rate at one year were zero. There were three deaths at two years; the total number of deaths during the study period was four. Follow-up was obtained in all but one patient, who had grafts in both legs. The length of follow-up varied from 2 to 40 months.

The cumulative patency rate at 27 months for above the knee placement was 81% (Fig. 1, Table 2). The cumulative patency rate for the above the knee position at 36 months was 71%. The cumulative patency rate for all procedures combined at 40 months was 77% (Fig. 2, Tables 3 and 4).

Eight revisions or declotting procedures were performed in eight different legs in seven patients; six of these remedial procedures in four patients were completely successful, including one successful replacement procedure in one leg. The other two grafts were lost. The total limb loss was as follows: there were three below the knee amputations in two patients, one of whom had both legs amputated in another hospital, details of which were not available. There were three transmetatarsal procedures on one patient and four toe amputations in three different patients. All of these patients had been operated upon initially for impending limb loss.

Discussion

Although the series is small and the follow-up period is of average length, initial evaluation of the data shows that the Gore-Tex grafts are satisfactory substitutes for above the knee femoropopliteal reconstruction, and can be safely applied in the community hospital if proper indications and standard approaches are followed and

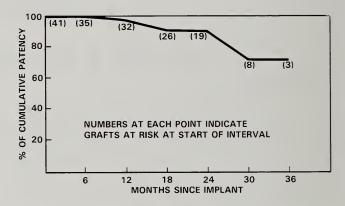


Figure 1. Life table analysis of grafts placed in the above the knee position.

TABLE 2

LIFE TABLE ANALYSIS OF GRAFTS PLACED IN THE ABOVE THE KNEE POSITION

Months Experience	At Risk	Failed	Lost	Duration	Died	Patency	Standard Error
0 to 1	41	0	0	0	0	100.00%	0.00%
1 to 3	41	0	0	6	0	100.00%	0.00%
3 to 6	35	0	2	0	0	100.00%	0.00%
6 to 9	33	1	0	0	0	96.97%	2.94%
9 to 12	32	0	0	0	0	96.97%	2.98%
12 to 15	32	0	0	6	0	96.97%	2.98%
15 to 18	26	2	1	1	1	89.05%	5.78%
18 to 21	21	0	0	2	0	89.05%	6.43%
21 to 24	19	0	0	3	2	89.05%	6.76%
24 to 27	14	1	0	5	0	81.31%	9.39%
27 to 30	8	1	0	0	0	71.15%	13.51%
30 to 33	7	0	0	3	1	71.15%	14.44%
33 to 36	3	0	0	3	0	71.15%	22.06%

adequate subspecialty coverage is available. All of our patients are studied with standard contrast arteriography either alone or in combinations with subtraction angiography and noninvasive vascular techniques, including pulses volume recording and bidirectional Doppler studies. Since many of the patients with femoropopliteal disease have been shown to have coronary artery disease as well, most of our patients are seen in consultation preoperatively by cardiology subspecialists to help assess operative risk and make decisions regarding anesthetic requirements.

Numerous reports have documented the utility of the Gore-Tex grafts in the supra and infrageniculate femoropopliteal position, and there has been enthusiasm for use of the graft as the conduit of choice in the above the knee position.^{1,2} In the high-risk patient in whom anesthetic time is very important, the Gore-Tex grafts are espe-

cially useful for shortening operating time.³ There has been renewed interest in preserving the saphenous vein for subsequent use as coronary artery grafting conduits, and in patients with good runoff, Gore-Tex grafts may indeed be the con-

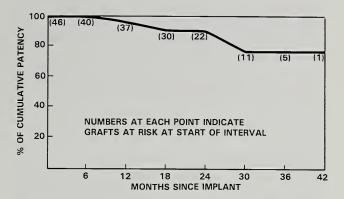


Figure 2. Life table analysis of all lower limb procedures combined.

TABLE 3

LIFE TABLE ANALYSIS OF ALL LOWER LIMB PROCEDURES COMBINED

Months Experience	At Risk	Failed	Lost	Duration	Died	Patency	Standard Error
0 to 1	46	0	0	0	0	100.00%	0.00%
1 to 3	46	0	0	6	0	100.00%	0.00%
3 to 6	40	0	2	0	0	100.00%	0.00%
6 to 9	38	0	0	1	0	100.00%	0.00%
9 to 12	37	1	0	0	0	97.30%	2.63%
12 to 15	36	0	0	6	0	97.30%	2.67%
15 to 18	30	2	1	1	1	90.47%	5.10%
18 to 21	25	0	0	3	0	90.47%	5.59%
21 to 24	22	0	0	3	2	90.47%	5.95%
24 to 27	17	1	0	5	0	84.23%	8.11%
27 to 30	11	1	0	0	0	76.57%	11.17%
30 to 33	10	0	0	4	1	76.57%	11.72%
33 to 36	5	0	0	4	0	76.57%	16.57%
36 to 39	1	0	0	0	0	76.57%	37.06%
39 to 42	1	0	0	1	0	76.57%	37.06%

TABLE 4
SUMMARY OF CLINICAL RESULTS UP TO 40 MONTHS

Operation Type	Number Used	Number Patent	% Patent	Avg. Months Weighted Experience	Months Maximum Experience
Above the Knee Arterial Procedures					
Femoropopliteal	41	36	88%	17.8	34
Group Totals	41	36	88%	17.8	34
Below the Knee Arterial Procedures					
Femoral-Distal-Popliteal	3	3	100%	19.7	33
Femoral-Posterior-Tibial	2	2	100%	36.0	40
Group Totals	5	5	100%	26.2	40
Overall Totals	46	41	89%	18.7	40

AUGUST, 1985 487

GORE-TEX GRAFTING/Chapman

duit of choice in the near future.1

The Gore-Tex grafts are no longer fraught with aneurysmal complications as in the original studies.4 In addition this material offers an as yet unexplained increased resistance to infection, and also has an apparent ability to be sterilized once infection has occurred.⁵ The well-documented ease of declotting a thrombosed Gore-Tex graft has been confirmed by our own experience. Ease of handling is another major advantage, and with the introduction of the new Gore-Tex suture material into clinical trials, in which we are participating, it has now become apparent that intraoperative suture-hole bleeding can become almost nonexistent (unpublished results, multiple investigators).

We believe that the Gore-Tex graft is an excellent substitute for saphenous vein for above the knee reconstructive purposes. In the proper setting, the procedures can be done with minimal morbidity and with good expectation of satisfactory long-term results. A trend toward judicious use of this material in lieu of saphenous vein above the knee is to be encouraged, especially in the high-risk patient.

Acknowledgement

The statistical review was performed by Ms. Jo Anne Klein of W. L. Gore & Associates, Inc., Elkton, Md.

REFERENCES

- 1. O'Donnell TF Jr, Farber SP, Richmand DM, et al: Above-knee polytetrafluoroethylene femoropopliteal bypass graft: Is it a reasonable alternative to the below-knee reversed autogenous vein graft? Surgery 94:26-31, 1983.
- 2. Pradhan DJ, Juanteguy JM, Michelson E, et al: Results of polytetrafluoroethylene grafts in the femoropopliteal region: Two year evaluation of 146 bypass procedures. *Am Surg* 47:355-358, 1981.

 3. Ekman CA, Claes G, Carlsson I: Use of polytetrafluoroethylene grafts in elderly and high-risk patients. *South Med J* 75:1553-1555, 1982.
- 4. McAuley CE, Steed DL, Webster MW: Seven-year follow-up of expanded polytetrafluoroethylene (PTFE) femoropopliteal bypass grafts. Surgery 95:57-60,
- 5. Roon AJ, Malone JM, Moore WS, et al: Bacteremic infectability: A function of vascular graft material and design. J Surg Res 22:489-498, 1977
- 6. Gupta SK, Veith FJ: Three year experience with expanded polytetrafluoroethylene arterial grafts for limb salvage. Am J Surg 140:214-217, 1980.

Help for Impaired Physicians

Through its Committee on Impaired Physicians, TMA helps doctors who are suffering from alcoholism and drug addiction. The thrust of the program is rehabilitative, not punitive. The Committee is composed of physicians who have special expertise in these areas, some from personal experience. Effective treatment for these illnesses is achieved most easily when the disease is detected early and family, friends, and associates are urged to avoid misguided sympathy which enables the condition to deteriorate.

HELP US TO HELP

Call the TMA Impaired Physician Program (615) 327-2711; outside Nashville call collect. Phone service available around the clock.

K. Neek. Seek. Neek. Neek. Neek. Neek. Neek.

Phenothiazine Associated Hyperthermia A Case Report

DAVID E. ROBERTS, M.D.

Introduction

Although malignant hyperthermia with general anesthesia is well documented, there is a paucity of literature on its association with phenothiazines. Over the past ten years, the national trend in the management of the chronic mentally ill has been to care for them in their home communities either in their own homes, halfway houses, boarding homes, or other group accommodations. Many of these patients require phenothiazines for control of their psychiatric problems to allow them to function in the community. Additionally, many of the patients in chronic care institutions require anticholinergic medications to control the extrapyramidal side effects of phenothiazine treatment.

We recently cared for an individual on such protocol in the inpatient unit at the local mental health center. When the air-conditioning failed at the center, this individual developed profound hyperpyrexia, resulting in bilateral lower extremity paralysis during his episode of hyperpyrexia.

The environmental control of halfway houses, boarding homes, and other institutions housing chronic mental health patients has received scant attention in the literature. Given the high frequency of utilization of phenothiazine/anticholinergic drug combination in chronically disabled mental patients, the deinstitutionalization process, and the lack of attention being paid to environmental controls, we see the potential for hyperthermic episodes similar to the case described below becoming more frequent.

Case Report

A 17-year-old black boy was admitted to the Jackson-Madison County General Hospital emergency room on June 16, 1977 from the nearby Mental Health Center inpatient service. He had a history of alcohol and drug abuse and chronic undifferentiated schizophrenia, and had been admitted to the Mental Health Center on June 12, 1977 for "acute psychosis." He was treated with large doses of chlorpromazine orally and daily intramuscular injections of fluphenazine decanoate, along with benztropine (Cogentin) for control of extrapyramidal symptoms. On his fourth day in the mental health inpatient unit he had to be placed in the seclusion room. Though the peak ambient temperature for that day was 82°F the air-conditioning unit at the Mental Health Center was not functioning. On that evening, when the staff noted that thepatient had become febrile, he was transferred to the Jackson-Madison County General Hospital for medical evaluation. His rectal temperature was 40.4°C (104.8°F).

On initial evaluation he was found to be comatose and unresponsive to any stimuli; his rectal temperature had risen to 42.3°C (108.1°F), verified on three separate Ivac recording instruments. His pulse was 130/min and his blood pressure was unobtainable; respirations were 56/min and shallow, with grunting and flaring of the alae nasae. Pupils were dilated and sluggishly reactive to light. There was no evidence of head trauma, and the patient's neck was supple. Funduscopic examination was within normal limits. Examination of the heart was unremarkable except for the tachycardia, and his chest was clear to auscultation. Neurological examination revealed deep coma, without lateralizing signs. The gag reflex was sluggishly intact, but there were no reflexes in the upper extremities. Patellar reflexes were 1+ on the right and 2+ on the left. There was no response to plantar stimulation. His skin was hot. without sweating. Admission arterial blood gases were within normal limits. The BUN was 64 mg/dl, and hematocrit 55%; electrolytes and CBC were normal.

The patient was packed in ice and given chilled intravenous (IV) fluids and ice water enemas, and over the next 30 minutes his rectal temperature fell to 39.4°C (103°F). After admission to the intensive care unit (ICU), he was placed on a hypothermia blanket with constant temperature monitoring via skin electrode, and his temperature was maintained at 38.3°C (101°F). Diagnostic evaluation, including spinal fluid using some patient remained in a coma for the next 48 hours, but slowly became more responsive, his temperature stabilizing at 37.8°C (100°F), after which he was maintained with IV fluids: he required no other respiratory or blood pressure support.

Biochemical monitoring revealed massive elevations of CPK MM fraction, LDH, and SGOT, all of which slowly fell to normal during his hospital course. On the fourth hospital

AUGUST, 1985 489

From the Family Practice Center. University of Tennessee Center for the Health Sciences, Jackson.

Reprint requests to Family Practice Center, UT Center for the Health Sciences. 294 Summar Ave., Jackson, TN 38301 (Dr. Roberts).

DRUG ASSOCIATED HYPERTHERMIA/Roberts

day he became responsive enough to obey simple commands appropriately but was still unable to speak or move his lower extremities. His other neurologic functions slowly returned, and the remainder of his course was characterized by slow, progressive improvement. Neurological workup revealed nonspecific changes on the EEG, with unremarkable brain scan and flow studies. Electromyogram and nerve conduction studies revealed bilateral peroneal denervation. Though his sensation was grossly intact, he had a pure motor paralysis of the lower extremities. Neurological consultation revealed no evidence to indicate spinal cord damage.

The patient has been followed for the past seven years and has had enough return of function in his lower extremities that he can now walk with crutches and lower extremity braces.

Discussion

Phenothiazines are commonly used to treat a wide variety of psychoses and organic brain syndromes, and have also been used in treatment of hyperthermic states to control shivering, 1,2 though their potential for uncoupling of the thermoregulatory mechanism at the level of hypothalmus has been well demonstrated in animal models,3 and in high doses they completely abolish thermoregulatory control. The anticholinergic properties of these drugs make them a potent inhibitor of sweating. The addition of an anticholinergic such as benztropine to control extrapyramidal symptoms further compromises the patient's ability to dissipate heat. Patients on this combination have a high potential for hyperthermic catastrophe.

The unique feature of lower extremity paraly-

sis in this case is somewhat baffling. Intramuscular denervation has been documented by microscopy, and that may have played a part. There is also a strong correlation of familial muscle diseases with malignant hyperthermia; the association of myopathy and malignant hyperthermia in patients under general anesthesia has long been known.⁴ Cerebral congestion, edema, isolated particular hemorrhages, and cell death in the central nervous system and/or spinal cord have all been documented by postmortem studies.⁵ All or any combination of these factors may have been responsible for our patient's lower extremity paralysis.

Summary

We have presented a case that illustrates the potential for extreme pyrexia associated with the use of phenothiazines. These commonly used drugs are useful in the pharmacologic armamentarium of psychiatrists, internists and family physicians, but we believe that it is important for the medical community to recognize the potential for malignant hyperthermia with their use.

REFERENCES

- 1. Kollias J, Bullard RW: The influence of chlorpromazine on physical and chemical mechanisms of temperature in the rat. *J Pharmacol Exp Ther* 145:373-381, 1984.
- 2. Zellman S, Guillan R: Heat stroke in phenothiazine treated patients, a report of three fatalities. *Am J Psychiatry* 126:1787-1790, 1970.
- Eichler AC, McFee AS, et al: Heat stroke. Am J Surg 118:855-863, 1969.
 Gottschalk PG, Thomas JE: Heat Stroke. Mayo Clin Proc 42:470-482.
- 5. Britt BA: Malignant hyperthermia: a pharmacogentic disease of skeletal and cardiac muscle. N Engl J Med 290:1140-1142, 1974.

Acute Lead Poisoning From the Betel Nut A Case Report

LOUIS CUNNINGHAM, M.D.; THEOPHILUS WORREL, M.D.; and JOHN LEFLORE, M.D.

Introduction

Lead poisoning results from both occupational and nonoccupational exposure. Cases of occupational exposure have been reported in battery makers, painters, welders, glass makers, solderers, and munitions makers. Nonoccupational exposure has commonly resulted from ingestion of moonshine whiskey or lead paint. Rarely, even more obscure sources of lead exposure have been reported, such as herbs, health foods and aphrodisiacs. We report the case of such an obscure source, the betel nut.

Case Report

A 36-year-old male physician, a native of India, moved to New York approximately six months prior to admission, living in New York City for a few weeks before moving to Syracuse, N.Y., to pursue a psychiatry residency. He moved to Nashville one day before he was admitted for generalized abdominal pain that began three months earlier. The abdominal pain was generalized, sharp, and intermittent, and required narcotics for relief. He also reported nausea, vomiting, profound weakness, easy fatigability, and generalized muscle aches. He denied hematemesis and melena. He also reported fever, chills, and night sweats.

He reported having malaria as a child, but was unclear as to its treatment. He also had rheumatic fever as a child, which was treated without complications or sequalae. Diabetes mellitus was diagnosed approximately two years prior to admission and treated with chlorpropamide.

Physical examination revealed a well-developed and nourished pale man in severe abdominal distress. He was afebrile, with normal blood pressure and pulse and slight tachypneia. There was slight bleeding from the gums, with no pigmentary abnormalities and fair dental hygiene. A grade II/VI systolic ejection murmur was heard over the left lower sternal border. The abdomen was protuberant, with hypoactive bowel sounds and generalized tenderness; it was soft, without organomegaly or masses. Rectal examination was unremarkable. There was moderate to severe generalized muscle weakness, but not muscle tenderness.

Laboratory studies showed a hemoglobin of 10 gm/dl, hematocrit of 30%, and white blood cell count 12,800/cu mm,

From the Department of Internal Medicine, Meharry Medical College, Nashville.

Reprint requests to Department of Medicine, Meharry Medical College, Nashville, TN 37208 (Dr. Cunningham).

with a normal differential. The peripheral smear showed marked basophilic stippling; no malarial plasmodia were seen. Blood chemistry revealed random glucose 271 mg/dl, sodium 127 mmol/liter, chloride 95 mmol/liter, CO₂ 25 mEq/liter, potassium 4.0 mmol/liter, BUN 14 mg/dl. Urinalysis was normal except for 3+ glycosuria. Chest and abdomen x-rays were unremarkable. Liver enzymes were two to three times normal, with a normal bilirubin.

A random urine sample for lead screening was returned positive, and quantified at 683.0 μ g/liter (N=0 to 80). Subsequent studies revealed a whole blood lead of 230 μ g/dl (N=0 to 40), free erythrocyte protoporphyrin 326 μ g/liter (N=20 to 75), urine zinc 3,016 μ g/dl (N=300 to 600), urine coproporphyrin 1,287 μ g/liter (N=0 to 250), and urine lead (after EDTA dose) of 4,243 μ g/liter.

The patient was interviewed several times in an effort to determine the source of exposure. Eventually, he mentioned a food supplement that he used as a matter of custom, the betel nut. He had purchased a supply at a health food store in New York City, and analysis revealed it as the source of his lead. Other family members who did not consume the betel nut, had no symptoms, signs, or laboratory findings of lead poisoning.

The patient was treated with EDTA infusions with a return of his lead levels to normal in approximately two weeks. His hemoglobin and hematocrit improved and his liver function test returned to normal.

He was treated for malaria (*Plasmodium vivax*) in view of his unclear and undocumented treatment, though he was not observed to have febrile episodes during his hospitalization. A G6PD level was also normal.

At discharge his abdominal pain, nausea, and vomiting had resolved, but the weakness and easy fatigability persisted. His hemoglobin was improving but had not returned to its previous normal of 18 gm/dl.

His blood lead levels returned to toxic levels as an outpatient and he was treated with weekly infusions of EDTA. After eight weeks of therapy his hemoglobin was 16 mg/dl and he has returned to full-time work in a residency training program.

Discussion

This patient presented classical symptoms of acute lead poisoning, i.e., abdominal pain, nausea, vomiting, weakness, myalgias, and fatigue, yet his diagnosis was overlooked by several doctors. And though the patient was a physician, he was unable to make the association between the betel nut and his illness. This illustrates how the

AUGUST, 1985 491

BETEL NUT POISONING/Cunningham

absence of an apparent source of exposure can make the diagnosis quite subtle.

It required repeated interviews to discover that the patient was taking the betel nut as a food supplement. The can of betel nut he had purchased in New York City contained about 100 gm of uncrushed betel nut sealed in a cellophane wrapper inside a sealed can. It had been imported, and it is presumed contamination had occurred previously. Analysis of the betel nut revealed contamination with lead and zinc. The Food and Drug Administration launched an investigation, which determined that the supplement had been imported illegally.

Relapse of lead toxicity following treatment with chelation therapy is known to occur⁷ and was observed in our patient. It is believed that this phenomenon is due to the release of lead deposits stored in bone. Some studies suggest that this may continue for up to two years.8

We found only one case report in the literature referring to the betel nut.9 In that case it was determined that the patient had used a lead weight to crush the betel nut.

This case indicates the need for a high index of suspicion for lead poisoning in patients with atypical abdominal pain, anemia with basophilic stippling, or other suggestive findings, even in the absence of an apparent source of exposure. Sources may be inconspicuous. Food supplements should be specifically inquired for, and when appropriate, analyzed.

REFERENCES

- 1. Cullen MR, Rabbins JM, Eskenuz B: Adult inorganic lead intoxication: presentation of 31 new cases and a review of recent advances in the literature. Medicine (Baltimore) 62:221-247, 1983.
- 2. Nye LJJ: An investigation of the extraordinary incidence of chronic nephritis in young people in Queensland. *Med J Aust* 2:145, 1929.

 3. Browder AA, Joselow MM, Louria OB: The problem of lead poisoning.
- Medicine 52:121, 1973.
 - 4. Lightfoote B: Lead intoxication. JAMA 238:1539, 1977.
- 5. Crosby WTT: Lead contaminated health food. Association with lead poisoning and leukemia. JAMA 237:2627-2629, 1977
- Brearley RL, Forsythe AM: Lead poisoning from aphrodisiacs: potential hazard in immigrants. Br Med J 2:1748, 1978.
- 7. Louria DB: Trace metal poisoning, in Wyngarden JB, Smith LH (eds): Textbook of Medicine, ed 16. Philadelphia, W.B. Saunders Co, 1982, pp 2218-
- 8. Black SC, Farmington N: Storage and excretion of lead in 270 days. Arch Environ Health 5:423-429, 1962.
- 9. Haddock RL, Park SK, Oplinger LC: Chronic lead poisoning in a betel nut chewing patient. Southeast Asian J Trop Med Public Health 11:149, 1980.

APRIL 1986								
Sunday Monday Tuesday Wednesday Thursday Friday								
		1	2	3	4	5		
6	7	8	9 TMA Opi	10 151ST AN yland Hot	11 INUAL ME el—Nash	12 ETING ville		
13	14	15	16	17	18	19		
20	21	22	23	24	25	26		
27	28	29	30	NOTES				

Chronic Pain in Adults With a History Of Childhood Sexual Abuse

WINSTON C.V. PARRIS, M.D. and ROBERT N. JAMISON, Ph.D.

Introduction

The chronic pain syndrome continues to be a major problem in medical management not only because therapy has been largely ineffective but more importantly because the etiological factors have been poorly understood. In the majority of instances solutions are based on a medical model, and intervention has been either surgical or pharmacological. In recent years a multimodal approach to chronic pain has been developed, and new light is being shed on some aspects of its psychodynamics.

While the emotional and environmental aspects of development can influence pain in many patients, we have recently become aware of the effect that sexual and physical abuse during childhood and adolescence has on the evolution of chronic pain in some patients. Though the precise mechanism of this relationship has not been determined, it is very likely that it is much more than superficial. The aim of this paper is to highlight some common characteristics that have been demonstrated in three chronic pain patients who had a well-documented history of sexual and/ or physical abuse, and to offer some therapeutic options.

Case Histories

Case 1

A 39-year-old woman was referred to the Pain Control Center for treatment of headaches and back pain. Her past medical history included a hysterectomy, a bilateral oophorectomy, and multiple breast biopsies, as well as hypertension, gastric ulcers, anemia, asthma, and migraine headaches. Two years earlier she was injured in a motor vehicle accident, which brought on complaints of low back pain, for which she has relied on a number of analgesics, tranquilizers, and antidepressants. She completed 18 years of education, including two master's degrees; she has been employed as a high

school teacher. She has a long history of "depressive episodes."

Past social history revealed that she was an only child, and that her father physically and sexually abused her. She recalls with discomfort being raped by her father in her early childhood, and that on telling her mother of the episode, she was physically beaten. She was also sexually abused by her uncle from the age of 4. She married at age 15 as a way to escape from her family. This marriage resulted in four children, although she recalls numerous fights and arguments with her husband. She obtained a divorce and remained unmarried until she was 31. She describes her present marriage as satisfactory. Since age 20, she has been hospitalized for recurrent bouts of depression, and has undergone a series of treatments, although the pain and depressive episodes have persisted.

On evaluation in the Pain Control Center, her physical signs were unremarkable except for a few palpable trigger points in the paraspinal musculature at the left fourth lumbar interspace area. There were no significant neurological findings. Management included psychological assessment with behavior modification. a series of left lumbar sympathetic blocks, exercise and group therapy, and Jacobsen's muscle relaxation exercises. While she did have some temporary relief from her low back pain, the relief was not well sustained and reappeared on ambulation. Because of her long history of depression and her inadequate response to therapy, she reluctantly agreed to psychiatric evaluation. After two months of in-patient antidepressant therapy and extensive counseling reinforced with a series of left lumbar sympathetic blocks. she appeared to improve remarkably. She indicated that she felt much better after verbalizing her childhood sexual abuse.

Case 2

A 52-year-old woman was referred to the Pain Control Center for left lower quadrant abdominal pain radiating to the left inguinal area and left lateral vaginal wall. Her past medical history included a hysterectomy, appendectomy, exploratory laparotomies, and surgery for a small bowel obstruction. For the past eight years she experienced intermittent abdominal pain, which had gradually increased in intensity. All physical findings were unremarkable. She relied on analgesics for pain relief. She was receiving Social Security disability and no litigation was pending. She described her pain as constant, unbearable and burning, and reported that most activity, especially sexual intercourse, aggravated it. Her desire for social, recreational, or sexual activity had decreased greatly, and she described herself as anxious and depressed.

The patient was the youngest of six children. She recalled being physically abused by her father on numerous occasions, and described her mother as an alcoholic who had a very unstable marital life. She recalls as a child witnessing her mother being sexually assaulted by one of her boyfriends, and also remembers trying to stop her father from physically abusing her mother; as a result, she was beaten herself. She

AUGUST, 1985 493

From the Department of Anesthesiology. Vanderbilt University Medical Center, Nashville.

Reprint requests to Pain Control Center, Department of Anesthesiology, Vanderbilt University Medical Center, Nashville, TN 37232 (Dr. Parris).

CHILD ABUSE/Parris

was married in her mid-teens to an alcoholic husband and bore two children; this marriage ended in divorce after 13 years. Two months afterward she met and married a man who was in the military service, but after three months she obtained evidence that her husband was a bigamist and had her marriage annulled. Two years later she married another man who was sexually impotent, although he had had children from his former marriage; she describes her marriage as stable and her husband as supportive. She expressed some feelings of guilt about her childhood experiences and extended family conflicts, but despite her many problems, she claims to be emotionally stable and psychologically well adjusted.

Evaluation in the Pain Control Center showed no significant neurological findings, and her musculoskeletal system was essentially normal. There was significant tenderness in the left lower quadrant but there was no rebound tenderness, and pelvic examination was essentially normal. Her pain was assessed as being due to sympathetic dystrophy, although the possibility of abdominal cutaneous nerve entrapment syndrome could not be excluded. On that assumption, she was offered psychological evaluation with behavior modification, group therapy, a series of left lumbar sympathetic blocks, a series of trigger point injections, trial of transcutaneous nerve stimulation, and Jacobsen's relaxation exercises.

This regimen appeared to give significant relief from her lower abdominal pain, but subsequently she developed vaginal pain, which became more intense after her primary physician diagnosed a rectocele. She was referred to a gynecologist for evaluation, but he found no vaginal pathology or rectocele. She was reassured and behavior modification was continued, and although her abdominal pain has not recurred, she still reports some residual vaginal pain.

Case 3

A 46-year-old woman gave a long history of pain complaints, having suffered from back pain and migraine headaches since her youth. In 1961, she was involved in an automobile accident in which she sustained multiple fractures and a traumatic amputation of her right leg. Since that time she has had stump and phantom limb pain, for which she has been attending the Pain Control Center. These problems appear to have been satisfactorily resolved, but recently she developed bizarre neuropathic pain in both hands, for which she has been evaluated and managed in the pain clinic. Her medical history includes a spinal fusion, an appendectomy, a hysterectomy, and a series of kidney infections. She is confined to a wheelchair and receives Social Security benefits. She presently lives alone, and has sleep disturbances and appetite problems, and admits to being anxious and depressed.

The patient's father died before she was born, and her mother died when she was 7 years old. She has two sisters, 13 and four years older than herself. She was placed in a foster home for two years following her mother's death and was later sent to live with her older sister and her husband. All of her childhood memories were negative. She recalls being frequently sexually abused since the fourth grade by her brother-in-law, who threatened to put her out of the house if she told anyone. She remained with her sister until she was 18 years old, when she moved in with her other sister. Her second sister's husband also sexually molested her when her sister was away from home, but when she reported this to her sister, she refused to believe the allegations about her husband. To escape her family, the patient met and married a man who was an alcoholic. Although they had three children, she recalls frequently leaving home to escape her husband's physical abuse; the relationship ended in divorce after four and a half years. She was married again two years later to a man who was both physically abusive and an alcoholic. This marriage lasted only three months, during which time

she was frequently hospitalized for bruises and lacerations. She notified the police on occasion in order to receive protection from her ex-husband, and she states that once, after being called, an officer came into her house and raped her. She admits that the policeman has never been prosecuted.

When she was evaluated in the Pain Control Center, examination showed that her right stump healed properly, but that there were two specifically tender areas near the scar that were consistent with neuromas. There were no other neurological findings, and (except for the amputation) her musculoskeletal system was essentially normal. A diagnosis of stump pain was made and she was treated with psychological evaluation with behavior modification, trigger point injections with local anesthetics, a series of right lumbar sympathetic blocks, and group therapy.

The patient appeared to benefit significantly from treatment and was officially discharged from the Pain Control Center, but six months later she returned with nonspecific pain in her upper extremities. While no specific diagnosis was made and no neurologic deficits found, she continued to attend the Pain Control Center, where she was given trigger point injections and individual psychological counseling. Overall, her lower extremity pain was well under control, but she reported little benefit from treatment for her upper extremity pain.

Discussion

The initial conceptualization of the pain-prone patient was presented by Engel,1 who suggested that certain patients who have a history of painful injuries and operations show evidence of some repressed anger and use their chronic pain as a way of relieving guilt. Although Sternbach² found little evidence to support Engel's notion of guilt as the source of pain-related problems, there have been studies to show that patients with nonorganic pain have a history of unhappy childhoods and marital difficulties.3-6 Other factors that have been identified to account for unexplained chronic pain have included depression,5,7 psychopathology,8,9 hypochondriasis,2 learned behaviors,10 and a deterioration in interpersonal relationships.¹¹ For the most part, no one has examined the role that abuse plays in patients with chronic pain.

The three cases presented in this paper were chosen to demonstrate an apparent relationship between chronic pain and sexual abuse. Although none of the patients, who were from diverse socioeconomic backgrounds, initially volunteered the information of their past sexual abuse, they all seemed grateful for the opportunity to discuss it. They all, to varying degrees, appeared to benefit from verbalizing their past experiences against the background of their chronic pain problems. Many of the clinical features of these patients coincide with the description of the pain-prone patient described by Blumer and Heilbronn.⁵ First, these patients have a long history of pain complaints. They have somatic preoccupation with an accompanying desire for surgical interventions, and also frequently have a history of narcotic abuse. Second, they have had a less than desirable family life, including incidents of physical and sexual abuse and there is often a history of alcoholism, depression, and chronic pain complaints in family members. They also tend to be attracted to abusive alcoholic spouses. Third, they deny having any interpersonal difficulties. They generally admit to feelings of anxiety and depression, but resist psychological intervention alone. They are often extremely dependent, even though they show signs of suppressed anger and hostility. Additional characteristics include an inability to work, a history of multiple operations, a withdrawal from activities, and sexual dysfunctions. Although there are instances of male chronic pain patients who have a history of sexual and physical abuse, in our experience women seem to be the more commonly affected.

Although this clinical report does not suggest that physical or sexual abuse is the cause of chronic pain behavior, these characteristics may well be contributing factors. In light of the present media interest in physical or sexual abuse, there is a willing atmosphere to discuss these events, and since the history of these pain-prone patients includes chaotic family backgrounds and emotionally painful experiences that generate feelings of guilt and depression, it stands to reason that traditional medical treatment should be supplemented by interventional measures.

In our experience, an approach to pain that is both medical and psychological is likely to be most effective. In addition to various methods offered in most pain centers (nerve blocks, psychological counseling, biofeedback, behavior

modification, relaxation techniques, and group therapy), selected patients may require intensive psychiatric intervention to deal with the pain as it relates to previous physical and sexual abuse. Those dealing with chronic pain patients are encouraged to address this relationship with the possibility of preventing needless operations or continued "doctor shopping."

Control data and prospective studies are necessary to determine the effect of sexual abuse in chronic pain behavior and this is being currently investigated at one institution. Through these studies and others, it is hoped that answers to questions such as why chronic pain behavior is more frequent in women than in men and why women attend pain clinics (almost 2 to 1) more often than men, may be found. Clearly, insufficient attention has been given to the high incidence of sexual abuse in chronic pain patients.

REFERENCES

- 1. Engel GL: Psychogenic pain and the pain-prone patient. Am J Med 137:889-918, 1959
- 2. Sternbach RA: Pain Patients: Traits and Treatment. New York, Academic Press, 1974.
- 3. Merskey H, Spear FG: Pain, Psychological and Psychiatric Aspects. London, Bailliere, Tindall & Cassell, 1967.
- 4. Haber J, Roos C: Effects of spouse abuse and/or sexual abuse in the development and maintenance of chronic pain in women. Pain S187 (abstract), 1984.
- 5. Blumer D, Helbronn M: Chronic pain as a variant of depressive disease: the pain-prone disorder. J Nervous Ment Dis 170: 381-406, 1982.
- 6. Kreitman N, Saisbury P, Pearce K, et al: Hypochondriasis and depression in out-patients at a general hospital. Br J Psychiat 17:119-126, 1964
- Blumer D, Heilbronn M: The pain-prone disorder: a clinical and psychological profile. *Psychosomatics* 22:395-402, 1981.
 Cox GB, Chapman CR, Black RG: The MMPI and chronic pain: the di-
- agnosis of psychogenic pain. *J Beh Med* 1:437-443, 1978.

 9. Gross RJ, Doerr H, Caldirola D, et al: Borderline syndrome and incest in
- chronic pain patients. Int J Psychiat Med 10(1):79-86, 1980-81
- 10. Fordyce WE: Behavioral methods for chronic pain and illness. St. Louis, C.V. Mosby Co., 1976.
- 11. Roy R: Pain-prone patient: a revisit. Psychother Psychosom 37:202-213,

AUGUST, 1985 495

Spondylolisthesis After Spinal Fusion With an Intact Neural Arch

A Case Report

E. L. CASHION, M.D. and STEPHEN N. BARNES, M.D.

Introduction

Spondylolisthesis of a lumbar vertebra without a lesion in the neural arch has been termed "pseudospondylolisthesis" by Junghanns.1 Macnab² suggested a similar condition be called "spondylolisthesis with intact neural arch." Newman³ mentioned several types of spondylolisthesis with intact neural arch, but used the term "degenerative spondylolisthesis" for a condition similar to that described by Junghanns and Macnab. We are reporting a case of spondylolisthesis of the fourth lumbar vertebra that developed after a matured spinal fusion in the presence of an intact neural arch. At the time of the fusion the vertebral alignment was normal. This is an unusual situation and is not mentioned by the above authors.

Case Report

Six years before coming under our care, a 42-year-old man had an onset of low back pain while lifting a piece of well-digging equipment. Radiograph of the lumbosacral spine (Fig. 1) was essentially normal; oblique view (Fig. 2) did not show a neural arch defect. Four weeks after the onset of his illness a through and through removal of the L5-S1 intervertebral disc was done after removing an extruded disc fragment from underneath the S1 nerve root on the right. This was followed by a transverse process and posterior element fusion from L5 to the sacrum. Nine months postoperatively radiographs of the lumbar spine showed a matured solid fusion.

After six asymptomatic years, he had insidious onset of left sciatic pain, with paravertebral lumbar spasm and sciatic pain on the left side on straight-leg raising. Radiograph of the lumbar spine showed subluxation of the fourth lumbar vertebra forward on the fifth lumbar vertebra (Fig. 3). There was a solid posterior fusion. Oblique radiographs did not show

a pars interarticularis defect. A myelogram showed a partial block at L4-5, which was due to a 5-mm protrusion of an intervertebral disc found at surgery. A solid fusion extended from the lamina of L5 to the sacrum. There had been overgrowth of the fusion to such a degree that the L4-5 interspace was also solidly fused. Surgery afforded only slight relief of the back pain.



Figure 1. Lateral radiograph of lumbar spine showing normal alignment

From the Neurosurgery Section (Dr. Cashion) and Orthopedic Surgery Section (Dr. Barnes), Veterans Administration Medical Center, Memphis. (Dr. Barnes is now in Griffin, Ga.)

Reprint requests to Neurosurgery Section, Veterans Administration Medical Center, 1030 Jefferson Ave., Memphis, TN 38104 (Dr. Cashion).



Figure 2. Right oblique radiograph of lumbar spine showing intact neural arch—before fusion.

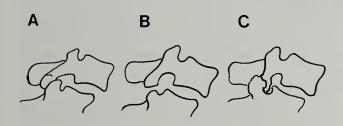


Figure 4. Degenerative spondylolisthesis: theories of etiology. *(A)* Increase of angle between the pedicle and inferior articular facet (Junghanns, 1930). *(B)* Alteration of angle allowing forward subluxation with overriding of the facets (Macnab, 1950). *(C)* Degeneration of joints without alteration of angle, allowing the facets of the upper vertebra to slip between those of vertebra below (Newman, 1955).

Discussion

Three theories as to the etiology of degenerative spondylolisthesis, which is to be distinguished from true spondylolisthesis, have been advanced³ (Fig. 4). These are (1) the angle between the pedicle and inferior articular facet is increased, (2) alteration of this angle could allow



Figure 3. Lateral radiograph of lumbar spine showing forward subluxation of the fourth lumbar vertebra—after fusion.

forward subluxation with overriding of the facets, or (3) degeneration of joints without alteration of angle would allow the facets of the upper vertebra to slip between those of the vertebra below. Even if one or all of these theories had been appicable in our case, the slippage should not have occurred, as a solid posterior fusion was present from L4 to the sacrum. Therefore, none of these explanations seems to apply, and the cause of this patient's spondylolisthesis is not apparent.

Acknowledgment:

Figure 4 is reproduced with permission from the *Journal* of *Bone and Joint Surgery* (45B:39-59, 1963).

REFERENCES

- 1. Junghanns H: Spondylolisthesen ohne Spalt im Zwischengelenkstuck. Archiv fur Orthopadische und Unfall-Chirurgie 29:118, 1930.
- 2. Macnab I: Spondylolisthesis with an intact neural arch—the so-called pseudospondylolisthesis. *J Bone Joint Surg* 32B:325-333, 1950.
- 3. Newman PH (with a special investigation by Stone KH): The etiology of spondylolisthesis. *J Bone Joint Surg* 45B: 39-59, 1963.

Tennessee Medical Association's

Exclusively Approved

DISABILITY INSURANCE & MAJOR HOSPITAL INSURANCE PROGRAMS

Administered By

Smith, Reed, Thompson & Ellis Co.

P. O. Box 1280 Nashville, Tennessee 37202 Phone 361-6846

Manager WILLIAM H. ELLIS, C.L.U.

Director of Sales
ROBERT K. ARMSTRONG

Underwritten

SINCE THE PROGRAM'S INCEPTION IN 1942

By

Commercial Insurance Company

Newark, New Jersey

Acute Lymphoblastic Leukemia: Determinants of Response to Therapy

CHARLES E. KOSSMANN, M.D., Editor

CATHY OSTER, M.D.

Resident Physician

A 62-year-old black man entered the Memphis VA Medical Center Hospital with a three-week history of "soreness" of the right lower extremity, easy fatigability, and malaise. In spite of a good appetite he had lost 7 lb since becoming ill. Initial examination revealed gas gangrene of the right leg for which an immediate above the knee amputation was performed. Recovery was rapid and without incident. Additional history taken a few days later disclosed nothing unremarkable on review of systems, and past medical history revealed only untreated hypertension. There was no history of leukemia or anemia in his family. He had consumed alcoholic beverages excessively for more than 20 years and had smoked a daily pack of cigarettes for more than 40 years. He was on no medications.

Three days after the amputation his oral temperature was 98.6°F, pulse 76/min, blood pressure 140/70 mm Hg, respiratory rate 12/min, weight 145 lb, and height 5 ft 10 in. He was a thin black man in no acute distress and completely oriented. His mucous membranes were pale and moist. Except for a moderately enlarged liver and spleen and the recent amputation wound, the physical examination was normal. There

was no lymphadenopathy.

The white blood cell count on admission was 175,000/cu mm, all of them large, immature-appearing lymphoid cells with prominent nucleoli. The hematocrit was 22.9% with normal red cell indices (mean corpuscular volume 91/cu mm, mean corpuscular hemoglobin 30 pg, mean corpuscular hemoglobin concentration 34%). The platelet count by phase microscopy was 200,000/cu mm. There were no reticulocytes. The bleeding time, prothrombin time, and partial thromboplastin time were all normal. The serum magnesium was 1.2 mEq/liter, the lactic dehydrogenase 300 U/ml. Thoracic roentgenogram, electrocardiogram, and urine were normal.

Histochemical staining of the bone marrow revealed large periodic acid-Schiff (PAS) staining aggregates in the cytoplasm of the cells having L2 (undifferentiated) morphology. There were no myeloperoxidase sudanophilic vacuoles, or naphthol ASD chloracetate esterases or alpha naphthol acetate esterases; the acid phosphatase stain was negative. These enzymatic features indicated that the cells were not myeloblasts.²

The patient's leukemia was treated initially with prednisone 100 mg orally a day, and vincristine 2.0 mg IV weekly. Doxorubicin 33 mg IV was given daily for the first three days

From the Department of Medicine, University of Tennessee, 951 Court Ave., Memphis, TN 38163.

Presented July 18, 1984.

only. Three weeks after this chemotherapy was started, the white blood count dropped to less than 300/cu mm but then rose slowly to a neutrophilic count of 1,000/cu mm. Immature lymphocytes could no longer be found on peripheral smear; he showed no signs of bleeding. A decubitus ulcer healed slowly in response to antibiotics, and he was well clinically on the last examination.

The final diagnosis was acute lymphoblastic leukemia.

ALVIN M. MAUER, M.D. *Professor of Medicine, Oncology*

This is a patient in whom the diagnosis of acute lymphoblastic leukemia (ALL) was easily reached. Treatment fortunately has so far been quite successful in terms of bringing the leukemic cell population down and allowing for restoration of normal marrow function. What I'd like to discuss are some of the newer opportunities we now have for *classifying* ALL. Much of the data relating to these opportunities have been accumulated in the last decade, and some in just the last year. They relate not so much to the morphology and histochemistry of the cells as to surface and cytoplasmic markers, and to chromosomal numbers and arrangements.

The Evolution and Utility of Classification

You might ask, what utility does classification of leukemia have? It is most helpful in predicting the probable response to treatment, and the prognosis.

To develop the subject chronologically, I will begin by taking you back to the 1940s and show you where we were with classification then and what it did for us. In the early part of that decade there was some utility to categorizing patients as having acute or chronic leukemia. The acute form had a median survival time of three to four months; the chronic form a median survival time of three to five years. There was, then,

AUGUST, 1985 503

some prognostic utility to making an initial clinical differentiation of these two types.

In 1948, it became important to distinguish lymphoblastic from myeloblastic forms of acute leukemia, because in that year Farber³ introduced a new drug, aminopterin, with which he was able to get clinical responses, as in our patient today, in lymphoblastic but not in myeloblastic leukemia. This stimulated interest in finding ways of distinguishing between these two subsets. You heard some of them in the case presentation. The determination is based not only on the appearance of the Romanowsky-stained blood and bone marrow preparations but also on PAS and other kinds of staining reactions of the cells. The special stains are most often successful when the diagnosis is already known from simply looking at the characteristics of the white blood cells on the Wright-stained smear.

By the end of the 1960s and the beginning of the 1970s it was learned that about 50% of the patients, especially children with acute lymphoblastic leukemia, were having long-term, disease-free survivals with therapy. It was obviously desirable to be able to discriminate between the half who would do well from the half who would not.

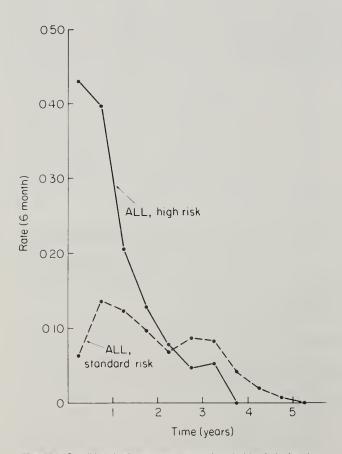


Figure 1. Conditional relapse rates, acute lymphoblastic leukemia.

One of the observations made at St. Jude Children's Research Hospital⁴ and other places about that time was that a small group of children with acute lymphocytic leukemia had mediastinal masses on initial diagnosis which disappeared promptly with therapy. These children were subsequently recognized as having a high likelihood of early treatment failure.

By 1975, the tools to identify different kinds of lymphocytes became available. With the advent of means for distinguishing normal T lymphocytes and B lymphocytes by their functional and other differences, it was only logical that Sen and Borella5 would use the new information for further classification of ALL. They found that the children who had mediastinal masses also had lymphoblasts that would form rosettes with sheep erythrocytes, as normal T (thymus) lymphocytes do. Their behavior with incubation also simulated that of the thymus lymphocytes (T cells). The mediastinal mass seen in some children apparently consisted of thymus-derived or thymus-related lymphoblasts. It was noted also that the higher the white blood cell count, the greater the likelihood of treatment failure.4 Further, early CNS involvement seemed to be a biological characteristic of the kind of leukemic cell that did not respond well to therapy.4 This immunologic class, with a fairly characteristic clinical picture in adolescent males, is now known as T cell leukemia. With the realization that such observation could aid in the recognition of a high probability of treatment failure, a profile of leukemic patients became possible.

How much help do such profiles provide for the desired discrimination? Fig. 1 shows the frequency of relapse in six-month increments over a period of six years from the beginning of therapy. Patients who had "high risk" features during the 1970s relapsed earlier than those without such features, who were regarded as having a "standard risk." Such information (see below) now not only helps to predict outcome, but mandates two additional procedures. First, the high risk patient must be treated early and vigorously for any chance of success. Second, with treatment failure, the question must be asked whether the cell populations present having become resistant to chemotherapy. We'll come back to the resistance problem later.

Since not all lymphoblastic leukemias responded equally to therapy, a further search for high and standard risk features seemed indicated. In this search, it was found that some leu-

kemic lymphoblasts were functionally different from others. At about the same time (1975) that Sen and Borella⁵ made the observation about the E-rosette formation by T cells, another study was reported from England by Greaves and his associates.6 Many investigators at the time were seeking cancer-specific antigens as if they were the Holy Grail. Greaves' group sought such antigens in ALL; the antigen they found seemed to be unique for certain leukemic lymphoblasts, and they called it the "candidate leukemia specific antigen." It subsequently turned out, as have so many others of the so-called cancer-specific antigens, to be a "differentiation" antigen; it was an antigen found very early in the differentiation of both normal and abnormal lymphocytes. It is now known as the common acute lymphoblastic leukemia antigen (CALLA). It occurs in the most frequently encountered leukemias of children, a subclass now referred to as the common ALL.

With the advent of a technique for creating monoclonal antibodies to antigens, it became possible to identify a whole panel of such antibodies to antigens of T and B lymphocyte antigens, and to thus subclassify further the acute lymphocytic leukemias.

T cells can be either E-rosette positive or negative, because the E-rosette receptor is also a differentiation antigen. This antigen is found in about half of the acute T cell leukemias, the most differentiated form having the E-rosette receptor. But all of them can be identified by anti-T antibodies.

Among the useful methods for classification is the observation of how rapidly the leukemic cells divide. If the population of leukemic cells in the bone marrow of different patients is examined, proliferative activity can be found, as indicated by the percentage of cells that take labeling with tritiated thymidine, to vary widely from 1% to about 33%. In a study by Dow,⁷ patients with bone marrow labeling indexes less than the median (slow) or greater than the median (fast) exhibited a treatment response difference. The slower the initial proliferative rate, the better the patients responded, with longer disease-free periods after induction of remission.

B cells display surface immunoglobulins (sIg); these cells are quite uncommon in acute leukemia (B cell leukemia) and very likely represent instead a leukemic manifestation of lymphoma. The most characteristic marker for a B lymphocyte is one Leder described,8 namely a gene rearrangement in preparation for production of im-

munoglobulin. He found that such rearrangement occurs almost exclusively in cells of the B lineage; T lymphocytes almost never display it. Lymphoblastic leukemias may have anti-B antigen (Ia, or immune response antigen), a marker of early differentiation of B cells not present on T lymphocytes.

In about 10% of leukemias, the cells are so undifferentiated that none of these markers are present, except for perhaps a trace of the Ia antigen. These are referred to as *unclassified or null leukemias*.

It is therefore possible to classify ALL by the characteristic pattern of blast cell features, which resemble typical stages of normal lymphocyte differentiation.

Clinical Relevance of the Markers

How does all of this begin to tie into the clinical features of leukemia? In the clinic we find, as noted, that about half of the patients with the T lymphoblasts (T cell leukemia) have a characteristic clinical presentation, with mediastinal masses, a greater tendency of the cells than the undifferentiated cells of the common form of ALL to invade the central nervous system, and a white blood cell count greater than 100,000, compared to counts quite a bit lower in the common ALL. Therefore, it can be predicted that patients with these features have a poorer prognosis than those with common ALL, and in fact they do.

Chemotherapeutic Resistance

The problem of resistance gets back to the more inclusive one of why and how some patients fail to respond to therapy. To summarize what has been discussed thus far, resistance to treatment is influenced by the total number of leukemic cells, the rate of cell division, and the intrinsic mutation rate for the cellullar population. In brief, the greater the proliferative activity, and the more genetically unstable the cellular population, the more likely it is that drug resistance will develop.

Proliferative activity not only has an effect on resistance, but also determines the rate at which relapse occurs. The treatment regimen also influences resistance and relapse. Intensive regimens, such as those currently being used for ALL, are designed to balance or eliminate the usual adverse prognostic effect of rapid cell division, because leukemias with greater rates of proliferative activity actually may become as sen-

AUGUST, 1985 505

sitive and as responsive to initial *intensive* treatment as less rapidly growing types. It may be that cell populations with a large number of rapidly dividing cells in the drug-sensitive proliferative phase are more likely to sustain a high kill rate. Such observations have great importance in the design of future protocols.

Classification by Extent of Differentiation

Another way of attempting classification of ALL cells is by the degree of differentiation that is achieved. It has been recognized that in general, cells that generate the common ALL antigen (the common type of ALL) tend to have low proliferative activity and also to be quite responsive to treatment. T cell leukemias, on the other hand, display a greater proliferative activity, on the average, and the B cell leukemias, with surface immunoglobulin (sIg), have the greatest proliferative activity of all. The increased proliferative activity of both T and B cell types is associated with an increased likelihood of drug resistance and early relapse. The T and B cell phenotypes also have more differentiated features than the common phenotype of ALL.

Look,9 of the St. Jude Children's Research Hospital, has attempted to find a narrower range of the extent of differentiation within the common ALL population of patients. He has demonstrated that the degree of differentiation within the common ALL cell populations can be determined by the extent of expression of CALLA on the cell surface. The amount of antigen and the degree of differentiation run parallel. In a large number of ALL patients he was able to identify some with a small amount of surface antigen and others with a large amount, the latter representing a greater degree of differentiation. When he looked at the outcome of treatment as a function of the degree of differentiation, he found that those with the least antigen, being less differentiated, were more likely to relapse and to do so earlier. It has already been observed that patients with "null" ALL, those in which no antigens other than the Ia antigen were present, tended to do poorly with treatment. One can therefore also develop a spectrum of treatment response from the degree of cellular differentiation.

For leukemias of the B cell lineage, as defined by Ig gene rearrangement,⁸ the least differentiated "null" types are also likely to develop drug resistance. The slightly more differentiated CALLA-bearing B cells are generally the most responsive to chemotherapy. With a further increase in the features characteristic of differentiation, such as immunoglobulin chains in the cytoplasm (cIg) and on the surface (sIg), greater maturation is paradoxically again associated with a greater likelihood of treatment failure.¹⁰

Now that we are able to influence differentiation by chemical agents such as the retinoids, it may be possible to approach the matter of drug resistance by manipulating the differentiation characteristics of the cell population.

Cell Classes by Karyotype

A final way of characterizing leukemic cell populations is by karyotyping. In recent years, with improved techniques it has been possible to demonstrate that the great majority of leukemic cells have abnormalities in the number and structure of their chromosomes. There may be reduced or increased numbers, and structural abnormalities may involve translocations of parts of chromosomes to other chromosomes. Williams,11 of the St. Jude Children's Research Hospital, has found that patients with a greater number of chromosomes in their leukemic cells, specifically more than 50, are more likely to do better than those who have a normal or lesser increase in number. She has also found that patients with the highest risk of leukemic relapse are those with chromosomal translocations. Not only are they more likely to relapse, they are also less likely to achieve an initial remission with treatment. It may be that disrupted chromosomes in some patients' leukemias are an expression of genetic instability which may be associated with a greater risk of developing drug resistance.

The translocations appear to have a use other than identifying patients at high risk for relapse. Some of these translocations are not random but associated with specific leukemic cell phenotypes. For example, cells with an 8:14 translocation are always associated with B cell leukemia. In a few such patients, the translocation has been found to be either 8:22 or 8:2. It is of interest that chromosomes 14, 22, and 2 are the ones that contain the genes for immunoglobulin production, and it is also interesting that the chromosomal translocation is at the site of the cellular oncogene (C-myc). Since this gene and its products are related to proliferative activity, it may be that the characteristic immunoglobulin production and the great rate of proliferative activity associated with B cell leukemias is a consequence of the specific translocations that have

been demonstrated.

Recently, Williams and Look¹² have demonstrated another set of associations between specific translocations and characteristic cellular phenotypes. In the "pre-B cell" patients (cells of common ALL patients with cytoplasmic immunoglobulin, cIg), the finding of a 1:19 translocation has been associated with increased proliferative activity, in contrast to pre-B cell leukemias in which only random translocations are found. This suggests that another site related to proliferative activity occurs at the area of that translocation. In the T cell populations that are positive for E-rosette formation, it has been found that the presence of an 11:14 translocation accompanies reduced proliferative activity, in contrast to the E-positive T cell leukemias, in which this translocation is not found. This regulatory site, therefore, may be associated with limitation of proliferative activity.

Returning to our patient, perhaps the two most important clinical findings were his advanced age and the initial white blood cell count of 170,000/ cu mm. At this time we do not know his leukemic cell phenotype; clinically, he does not have a mediastinal mass or bulky leukemic tissue. It is probable that he has either an undifferentiated "null" or possibly CALLA-positive ALL. We could anticipate the early response to treatment that occurred, as well as the likelihood of early relapse.

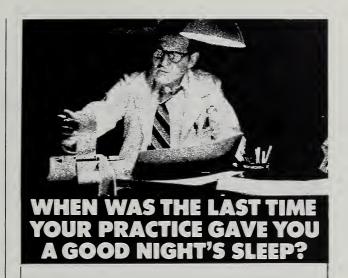
REFERENCES

- 1. Bennett JM, Catovsky D. Daniel MT. et al: Proposals for the classifica-
- tion of the acute leukemias. *Br J Haematol* 33:451, 1976.

 2. Bowman WP, Melvin S, Mauer AM: Cell markers in lymphomas and leukemias. *Adv Int Med* 25:391, 1980.
- 3. Farber S. Diamond LK, Mercer RD, et al: Temporary remission in acute leukemias in children produced by folic acid antagonist. 4-aminopteroyl-glutamic acid (aminopterin). N Engl J Med 238:787-793, 1948.
- 4. Simone JV: Prognostic factors in childhood acute lymphocytic leukemia. Adv Biosci 14:27-42, 1975.
- Sen L. Borella L: Clinical importance of lymphoblasts with T markers in childhood acute leukemia. N Engl J Med 292:828, 1975.
- 6. Greaves MF, Brown G, Rapson NT, et al: Antisera to acute lymphoblastic leukemia cells. Clin Immunol Immunopathol 4:67, 1975.

 7. Dow LW, Chang LJA, Tsiatis AA, et al: Relationship of pretreatment
- lymphoblast proliferative activity and prognosis in 97 childen with acute lymphoblastic leukemia. Blood 59:1197-1202, 1982
- 8. Rovigatti U, Mirro J, Kitchingman G, et al: Heavy chain immunoglobulin
- gene rearrangement in acute nonlymphocytic leukemia. *Blood* 63:1023-1027. 1984.

 9. Look AT, Melvin SL, Brown LK, et al: Quantitative variation of the common acute lymphoblastic leukemia antigen (gp 100) on leukemic marrow blasts. J Clin Invest 73:1617-1628, 1984.
- 10. Crist W, Boyett J. Roper M, et al: Pre-B cell leukemia responds poorly to treatment: A Pediatric Oncology Group study. Blood 63:407-414. 1984
- 11. Williams DL, Tsiatis A, Brodeur GM, et al: Prognostic importance of chromosome number in 136 untreated children with acute lymphoblastic leukemia. Blood 60:864-871, 1982.
- 12. Williams DL, Look AT, Melvin SL, et al: New chromosomal translocations correlate with specific immunophenotypes of childhood acute lymphoblastic leukemia. Cell 36:101-109, 1984.



We mean the kind of sleep that comes from knowing you practiced medicine the way it was meant to be practiced. No compromises.

As a Navy physician, you'll be working at some of the most modern facilities in the world. You'll be given a practice that's as varied and challenging as any you'll find in a civilian set-

And, for a Navy physician, administrative details are kept to a minimum. A highly trained staff of professionals attends to most of the paperwork. There are a lot of great benefits that go with being a Navy physician. Good pay. A family life. Even 30 days' paid vacation a year.

The Navy currently has residency and fellowship positions available in medical centers throughout the United States.

Residencies	Fellowships
Anesthesia	Cardiology
Family Practice Internal Med Neurosurgery	Endocrinology/ Metabolism
Ob/Gyn Pathology	Gynecologic Oncology
Pediatrics	Hand Surgery
Surgery Urology	Pulmonary Med

For more information please contact:

LT. MIKE HOPKINS NAVY MEDICAL PROGRAMS

IN NASHVILLE—(615) 251-5571 IN TENNESSEE—(800) 342-8629 OUT OF STATE—(800) 251-2516

AUGUST, 1985 507

Diagnosis and Management of Blunt Bronchial Injury

ALAN D. GRAHAM, M.D.; EUGENE C. MANGIANTE, M.D.; and TIMOTHY C. FABIAN, M.D.

Although the recognition of bronchial disruption due to blunt trauma has increased tenfold over the last decade,¹ its relative incidence remains low compared to other blunt intrathoracic injuries. Significant morbidity and mortality may result from either missed or delayed diagnosis.² The pathogenesis, clinical and radiographic findings, and management of this uncommon entity will be discussed.

Case Report

A 14-year-old boy was a passenger in an automobile involved in a head on collision with a parked vehicle. The automobile was traveling approximately 50 mph, and the patient was not wearing a seat belt. He was transported to the Presley Trauma Center alert, but complaining of shortness of breath and anterior chest pain. His respiratory rate was 36/ min, pulse 96/min, and blood pressure 164/82 mm Hg. He had multiple facial contusions and lacerations, and though his trachea was in the midline, subcutaneous emphysema was prominent in the neck and anterior chest. Breath sounds were decreased in the left hemithorax, and there was tenderness and ecchymosis over the left anterior chest. Hamman's sign was present. Abdominal, orthopedic, and neurosurgical evaluation was unremarkable. Arterial blood gas determinations demonstrated a PaO₂=69 mm Hg and PaCO₂=41 mm Hg on 40% O2 by face mask, while other laboratory values were normal. Chest x-ray demonstrated pneumomediastinum, with air dissecting up into the deep cervical tissues, and a left pneumothorax. No rib fractures were found.

Though tube thoracostomy reexpanded the left lung, a small air leak persisted, and the patient was therefore transferred to the trauma intensive care unit. Approximately 48 hours after admission, he developed acute respiratory distress, requiring endotracheal intubation and mechanical ventilation. Chest x-ray demonstrated total atelectasis of the left lung, and a cut-off of the air bronchogram on the left. Flexible bronchoscopy performed in the intensive care unit was nondiagnostic. Shortly thereafter, he was transferred to the operating room, where rigid bronchoscopy revealed a complete proximal disruption of the left mainstem bronchus. Through a left posterolateral thoracotomy the transected left mainstem bronchus was anastomosed using interrupted sutures of 4-0 polypropylene. The patient had an uneventful recovery and was discharged on the 12th postoperative day.

Discussion

Many patients with blunt bronchial disruption do not reach the hospital alive, or do not survive long enough for the diagnosis to be entertained, making it difficult to discern its true incidence. Three mechanisms of injury have been proposed. First, at impact there is a sudden development of increased intrabronchial pressure due to interposition of the lung between the anterior chest wall and vertebral column.^{2,3} If the glottis is closed, surface tension increases, and according to the Law of LaPlace is greatest in the area of maximum luminal diameter (proximal bronchus). A second explanation suggests a shearing force between a decelerating lung and a relatively fixed carina. A third concept proposes compression of the anteroposterior diameter of the chest with lateral widening and consequent distraction of the lungs from each other. All three theories have support from experimental animal models and the answer may be multifactorial. All insist that the injury should occur in the proximal bronchial tree, which is indeed where tears most frequently occur. Approximately 80% of blunt bronchial tears occur within 2.5 cm of the carina, although the entire bronchial tree is susceptible. The rent is transverse and may be either complete or partial. It is uncommonly associated with other major intrathoracic injuries, and in fact many patients have no other serious injury.

Clinical manifestations vary, depending upon the extent of bronchial injury and the presence of an anatomical communication with the pleural cavity. Patients with free communication between the injury and the pleural cavity have significant subcutaneous emphysema, dyspnea, and a moderate to large pneumothorax.⁴ Tube thoracostomy rarely eradicates the pneumothorax, and a large, continuous air leak is noted in the underwater drainage device. Other findings in-

From the Department of Surgery, University of Tennessee Center for the Health Sciences, and the Presley Trauma Center, 956 Court Ave., Memphis, TN 38163.

clude hemoptysis, hemothorax, and Hamman's crunch, usually allowing early diagnosis.

With little or no communication between bronchial injury and pleural space, the diagnosis is frequently delayed, as it was in our case. Although the tear is transmural, the peribronchial tissues can prevent free pleural communication and pneumothorax, and atelectasis, pneumonia, or respiratory failure may develop before the diagnosis is made. Recurrent pneumothorax or persistence or enlargement of air leaks should alert the clinician to this possibility. Increased airway pressure from mechanical ventilation often accelerates the situation and may prove catastrophic. In a small group of patients in whom the diagnosis is not made because clinical and radiographic findings are minimal or absent, stricture may develop at the site of injury, leading to persistent and unexplained atelectasis or pulmonary infections with progressive respiratory compromise.

In addition to the clinical manifestations, radiographic signs such as deep cervical air, upper rib fractures, the "fallen lung" sign, and acute interruption of the air bronchogram suggest the diagnosis. In patients with pneumothorax from other causes, the lung collapses toward the mediastinum, whereas with blunt bronchial rupture, as a result of loss of support, the lung falls caudally, producing the fallen lung sign.⁵ Since the deep cervical fascia is a direct extension of the mediastinum, air from the bronchial tear often dissects up this plane. Fractures of the upper ribs are nearly always present in adults with this injury, though younger patients have ribs that are more resilient and less likely to fracture. Our patient had no rib fractures.1

Whenever disruption is suggested by clinical or radiographic findings, bronchoscopy is the most reliable method to confirm the diagnosis. Though both rigid and flexible bronchoscopy have been used, some surgeons have found that rigid bronchoscopy affords better visualization of the area under the carina. This was true with our patient. Bronchoscopy will demonstrate not only the location but the extent of injury. Except in patients with chronic stricture due to previously untreated bronchial injury. bronchograms are contraindicated, since they may exacerbate respiratory dysfunction. In chronic injury, bronchography will show the site and the extent of the injury.

With relatively few exceptions, bronchial injury requires immediate open repair as soon as possible. The repair should be performed with nonabsorbable suture, reinforced when feasible with a pleural or intercostal muscle flap.6 If the injury is less than one third the diameter of the bronchus, and the lungs are expanded without air leaks, some have advised observation,² but early surgical repair permits primary closure of the rent, with restoration of pulmonary function before infection and stenosis complicate the injury.

REFERENCES

- 1. Burke JF: Early diagnosis of traumatic rupture of the bronchus. JAMA 181:682-686, 1962.
- 2. Kirsh NM, Orringer MB, Behrendt DM, et al: Management of tracheobronchial disruption secondary to nonpentrating trauma. Thorac Surg 22:93-101.
- 3. Sutton JP. Pinkerton JA: Bronchial disruption secondary to blunt thoracic
- trauma. J SC Med Assoc 136:113-117, 1973.

 4. Chesterman JT. Satsangi PN: Rupture of the trachea and bronchi by closed injury. Thorax 21:21-26, 1966.
- 5. Klumpe DH, Oh KS. Wyman SM: A characteristic pulmonary finding in unilateral complete bronchial transection. Am J Roentgenol Radium Ther Nucl Med 110:704-706. 1970.
- 6. Eastridge CE. Hughes FA. Pate JW, et al: Tracheobronchial injury caused by blunt trauma. Am Rev Resp Dis 101:230-237, 1970.

509 AUGUST, 1985

Multiple Calcified Hepatic Lesions

STEVEN INGATO, M.D.; PETER C. WITT, M.D.; and EAPEN THOMAS, M.D.

A 59-year-old white male smoker with a history of ethanol abuse and severe COPD treated with steroids, theophylline, and albuterol, was admitted for evaluation of epigastric pain and hematemesis. He denied fever, chills, weight loss, rectal bleeding, hemoptysis, hematuria, and history of peptic ulcer disease. Physical examination was remarkable only for a distended but soft abdomen and guaiac-positive stool. Chest x-ray showed changes consistent with COPD, without acute infiltrates. Fiberoptic esophagogastroduodenoscopy (EGD) revealed exudative esophagitis and multiple superficial exudative ulcerations of the second and third portions of the duodenum. Biopsies of the latter confirmed acute and chronic inflammatory changes without evidence of malignancy. A fasting serum gastrin was 292 pg/ml (N < 200 pg/ml) and a secretin infusion test showed a 50 pg/ml rise in gastrin after one minute, followed by a continuous fall to nearly baseline after 30 minutes. An ultrasound study of the abdomen revealed solid and cystic masses in the right lobe of the liver as well as borderline enlargement of the head of the pancreas. Indirect hemagglutination (IHA) for echinococcosis was \leq 1:32 (88% hydatid cysts detected with IHA titers > 1:256). Computerized tomography (CT) of the abdomen is shown in Fig. 1. The patient was treated with cimetidine and antacids, and returned within two months for further evaluation of the hepatic lesions; stool was guaiac-negative, liver tests were within normal limits, and WBC 7,500/cu mm with normal differential. Repeat EGD demonstrated healing of the esophagitis, duodenitis, and duodenal ulcers. Endoscopic retrograde cholangiopancreatography was normal. A diagnostic laparoscopy was performed.

Please examine Fig. 1 and choose the best diagnosis:

- (1) Hydatid disease
- (2) Hepatic fibropolycystic disease
- (3) Metastatic gastrinoma
- (4) Sclerosing hemangioma

Discussion

Echinococciasis may present clinically silent calcified cystic lesions involving the anteroinferior and posteroinferior surfaces of the right hepatic lobe. The IHA results, however, do not support such a diagnosis in this case.

Hepatic fibropolycystic disease is a group of



Figure 1. CT scan of the abdomen.

inherited hepatobiliary abnormalities involving cystic and fibrotic changes in the liver and associated renal defects. Many of the subtypes, such as congenital hepatic fibrosis and Caroli's syndrome, are usually recognized in childhood. Adult fibropolycystic disease, on the other hand, is frequently found incidentally at autopsy. The cysts may be diffusely scattered or localized, usually in the left lobe. Their size may vary greatly but rarely exceeds 10 cm. Clinical findings usually occur in the fourth and fifth decades, and may include abdominal pain, nausea and vomiting, and hepatomegaly. Other congenital anomalies are common, and more than 50% of patients also have polycystic kidneys.

Elevated fasting serum gastrin associated with multiple duodenal ulcerations brings to mind gastrinoma (Zollinger-Ellison syndrome). More than 50% of these tumors will metastasize, usually to the liver or surrounding lymph nodes. Identification of a true gastrinoma is best made by the secretin infusion test's demonstrating a prompt rise in serum gastrin, usually more than 200 pg/ml. In this case, however, the results were ambiguous at best, suggesting that other causes

From the Department of Internal Medicine, Quillen-Dishner College of Medicine, East Tennessee State University, and the Division of Gastroenterology, Veterans Administration Medical Center, John-

Reprint requests to Chief of Gastroenterology (111D), Veterans Administration Medical Center, Mountain Home, TN 37684 (Dr. Thomas).

of hypergastrinemia (i.e., antral gastrin cell hyperplasia) might be involved. Another source of primary neoplastic disease is, of course, always possible, especially given the liver's propensity for metastatic disease. These patients, though, will usually present clinical findings attributable to their primary neoplasm (anorexia, weight loss, fever), as well as secondary hepatic findings (hepatomegaly, abdominal tenderness, elevated alkaline phosphatase). Calcification in metastatic liver lesions is uncommon, though it can occur with mucous secreting metastatic colon center.

Hemangiomas are the most common benign hepatic tumors. The cavernous forms are usually solitary and small, occurring more frequently in the left lobe. They often result in fibrotic changes, and may progress to phlebolith formation and calcium deposition. Spontaneous rupture of a cavernous locule may require emergency surgical intervention. The capillary hemangiomas may be few in number or widely disseminated; large ones are rare. A generalized hereditary telangiectasia may be present. Fibrosis and calcification often occur with age.

The natural course of these tumors is usually benign if left unattended; signs and symptoms, if present at all, are usually mild and nonspecific, and may include right upper quadrant pain, abdominal pressure sensation, or venous hum. Surgical resection is indicated only for intolerable discomfort or major complication, since the associated morbidity and mortality may be significant. It is important to note that when a hemangioma is truly suspected, percutaneous needle liver biopsy is contraindicated because of increased risk of hemorrhage. Contrast enhanced CT scan and angiography should be employed to confirm the diagnosis. In this case, biopsy was relatively safe as it was performed under direct vision.

ANSWER: The correct diagnosis is (4), sclerosing hemangioma. The CT scan showed several focal defects with some calcification and a fluid level present in the right hepatic lobe; the pancreatic head was also suspected to be borderline enlarged in other cuts.

The differential diagnosis in this case should include both cystic and solid hepatic defects which might present as calcified lesions, including congenital, vascular, infectious, and neoplastic processes.

Peninsula Hospital

- Adult and Adolescent Psychiatric Programs
- Adult and Adolescent Chemical Dependency Programs
- 93 Beds Joint Commission Accredited
- Medical Detox
- Group, Individual and Family Therapy
- State Approved School Program
- Activity Therapy Programs Coping Skills Groups
- Speaker's Bureau Community Education
- Most Insurance Plans Accepted
- Specialized Programs for Stress, Depression, Sleeping and Eating Disorders
- 24 HOUR ADMISSIONS AND INFORMATION

PENINSULA HOSPITAL Jones Bend Road Louisville, Tennessee 37777

573-7913 970-9800



AUGUST, 1985 511

Oral Disease in Tennessee

DURWARD R. COLLIER, D.D.S., M.P.H.

Dental caries, almost a universal disease a few years ago, now is declining among the population. Dental caries rates have declined by 37% nationwide¹ and over 50% during the past 25 years in Tennessee,² periodontal disease having now surpassed dental caries as the number one oral disease in the state. It is estimated that eight out of ten Tennesseans have this disease, ranging from the beginning to the advanced stages.³ Because of the preventive programs in reducing dental caries, teeth now are being saved and kept in the oral cavity longer; therefore, more teeth are at risk for periodontal disease. It is expected that the demand for treatment will be greater and the time that the dental practitioner spends in treating periodontal disease will significantly increase.

In the not too distant past there was *pyorrhea*, which was gum disease pure and simple, but as with so much scientific information, change has occurred in the classification of periodontal disease. No longer can periodontal disease be thought of as only one or two diseases, but it must be considered as many specific diseases, each with very definite disease characteristics, etiologies, and manifestations.

Today periodontal disease can be divided into two main categories: the plaque associated periodontal diseases, and the non-plaque associated diseases (Table 1).⁴

Page and Schroeder have described the stages in the pathogenesis of periodontal disease as the initial, early, established, and advanced lesions (Table 2).⁵ These observations point out that many specific cell types are involved in the progression of the disease, and that it is *not*, therefore, a function of age that disease develops but rather a breakdown or overstimulation of one of the body's own host factors or by-products. This

TABLE 1

THE PERIODONTAL DISEASES

Plaque Associated Diseases
Gingivitis
Adult-onset periodontitis
Juvenile periodontitis
Acute necrotizing ulcerative gingivitis
Rapidly progressing periodontitis
Prepubertal periodontitis
The periodontal abscess
Dilantin hyperplasia

Non-Plaque Associated Diseases
Muco-gingival defects
Lesions related to restorative dentistry
Periapical-endodontic factos
Bullo-vesicular diseases
Hereditary enlargement of the gingiva

is significant, because in Tennessee there is still the perception that "pyorrhea" is normal, it cannot be successfully treated, and many people will lose their teeth "anyway." Obviously, these attitudes, which are based on scientific fact, can lead to a totally inappropriate standard of care.

Some warning signs of periodontal disease show up during early stages of the infection. Others appear after the disease has already done serious damage. The warning signs of periodontal disease are as follows:

- Gums that bleed when teeth are brushed.
- Persistent bad breath.
- Soft, swollen or tender gums.
- Pus between the gums and teeth.
- Loose teeth.
- Gums that have receded from the teeth.
- Any change in the way a partial denture fits.
- Any change in the spaces between teeth or in occlusion.

From the Division of Dental Health Services, Tennessee Department of Health and Environment, Nashville.

While bacterial plaque is the primary cause of periodontal disease, other factors can contribute to or aggravate the disease. Various irritants in the mouth can cause injury to the gums and supporting tissues. Physical irritants include food that has become impacted between the teeth, worn out fillings, which create plaque traps, and improper use of dental floss, toothbrush, and toothpicks. Local irritants that may result in inflammation are smoking and tobacco chewing.

Harmful habits such as bruxism (grinding the teeth) and nail biting make the gums and supporting bone more susceptible to irritants. Also, abnormal forces in the mouth which may occur

TABLE 2

STAGES IN PATHOGENESIS*

The Initial Lesion

Classic vasculitis near junctional epithelium

Exudation of fluid from the gingival sulcus

Increased migration of leukocytes into the junctional epithelium

Presence of serum proteins

Alteration of most coronal portion of the junctional epithelium Loss of perivascular collagen

The Early Lesion

Accentuation of the features of initial lesion

Accumulation of lymphoid cells

Cytopathic alterations in fibroblasts

Further loss of collagen network supporting the marginal gingiva Beginning proliferation of the basal cells of the junctional epithelium

The Established Lesion

Persistence of the features of acute inflammation

Predominance of plasma cells but without bone loss

Presence of immunoglobulins extravascularly

Continuing loss of connective tissue substance

Proliferation, apical, migration and lateral extension of the junctional epithelium; early pocket information may or may not be present

The Advanced Lesion

Persistence of features of the established lesion

Extension of the lesion into the bone and periodontal ligament

Continued loss of collagen

Presence of altered plasma cells

Formation of pockets

Periods of quiescence and exacerbation

Conversion of the bone marrow distant from the lesion into fibrous connective tissue

Widespread manifestations of inflammatory and immunopathologic tissue reactions

from malocclusions, high restorations and ill-fitting bridges or partial dentures can result in bone destruction. Nutritional deficiencies may aggravate the effects of plaque and other irritants. A balanced diet will provide the proper amounts of nutrients needed for both general and dental health.

A number of systemic conditions can also contribute to the development of periodontal disease. Pregnancy sometimes exaggerates the disease because of hormonal imbalances. Diabetes and some blood diseases lower the resistance of the tissues against infection. Finally, certain medications can affect the health of the gums.

It has been estimated that a person with 28 teeth that are surrounded by soft, puffy, bleeding gums has as much infection draining into his system as he would have from an infected wound $2\frac{1}{2} \times 3$ inches in area.⁶

Although public health does not have a panacea or a mass community program like fluoridation to prevent periodontal disease, we will be increasing our efforts to educate teachers and school-age children about its early warning signs, and the value of good home care, and early and periodic examinations in its prevention. Physicians should be aware of the warning signs of this disease and its systemic manifestations, and be able to advise their patients accordingly.

For further information regarding the Oral Diseases, please write to the Division of Dental Health Services, Tennessee Department of Health and Environment, Nashville, TN 37219.

REFERENCES

- The Prevalence of Dental Caries in United States Children: The National Dental Caries Prevalence Survey. U.S. Department of Health and Human Services, PHS, NIH. 1979-80, pp 1-159.
 Bryan ET, et al: Dental health status of school children in Tennessee—a
- Bryan ET, et al: Dental health status of school children in Tennessee—a 25 year comparison. J Tenn Dental Assoc 62:31-33, Jan 1982.
- 3. 37th Annual Dental Health Workshop, Tennessee Dental Association.
 Nashville, Tennessee, Jan 1985.
- 4. Peden JW: The nature and names of the periodontal disease. *J Tenn Dental Assoc* 65:15-20, April 1985.
- 5. Page RC. Schroeder HE: Pathogenesis. in Schulgee S. et al (eds): *Periodontal Disease*. Philadelphia, Lea and Febiger, 1977, pp 168-195.
 6. Berland T: How to Keep Your Teeth After 30. Public Affairs Pamphlet
- Berland T: How to Keep Your Teeth After 30. Public Affairs Pamphlet No. 443, pp 1-24.
- 7. They're Your Teeth . . . You Can Keep Them. Bureau of Health Education and Audiovisual Services, American Dental Assoc, Chicago, pp 1-11.

^{*}From Page and Schroeder.5

Twice the Doctors, Half the Care

J. KELLEY AVERY, M.D.

Case Report

A middle-aged woman was seen by her primary care physician with complaints of shortness of breath, weight loss of 10 lb in the past three months, and some vague pain in the right lower quadrant of her abdomen. Examination in her doctor's office revealed a rather profound anemia with a hemoglobin of 6.5 gm/dl and a PCV of 30%. She was referred to the radiology department of a hospital for outpatient upper GI series and a barium enema. Her physician planned an outpatient sigmoidoscopic examination after the x-ray studies.

The radiologist report a 2-cm esophageal hiatal hernia on upper GI, and "no constricting, inflammatory, or neoplastic changes evident" on the barium enema. The sigmoidscopy was never done.

Two months later, after conservative treatment with diet, antacids, and antispasmodics, the anemia was not improved. Bone marrow showed "changes reflective of an acute to subacute reactive process." The patient's complaints continued two more months. An ultrasound study was done, revealing a 2-cm solid mass in the liver. Review of the barium enema revealed an overlooked lesion in the cecum and two consecutive stool examinations showed occult blood.

Admission to the hospital was followed by a colonoscopic examination, which revealed a space occupying lesion in the cecum that proved on biopsy to be adenocarcinoma. Right colectomy was done and multiple liver nodules were found. The patient died about one month later.

Litigation in this case resulted in a sizeable loss due to negligence on the part of the radiologist.

At first glance, this case shows a less than adequate workup by the primary care physician. The history and the anemia

Dr. Avery is medical director of State Volunteer Mutual Insurance Company.

would cry out for early stool studies for blood and the strong suspicion of large bowel pathology. But the primary care physician was not sued, so the case was processed in order to defend the radiologist and his corporation.

In the subsequent investigation two findings made defense almost impossible:

First, the radiologist was given *no* clinical information on the request for x-ray studies, nor did he take any history prior to his studies. Second, the radiologist of record dictated the report of the barium enema, but the actual procedure had been done by a partner who had made notes on his findings.

Loss Prevention Comments

About 40% of paid claims on SVMIC radiologists result from misread x-rays. Would that figure be reduced by the requirement of pertinent clinical information on the request for studies? We believe it would. Would that figure be reduced by the radiologist who does the procedure taking a brief clinical history of his own? We believe it would. Should a radiologist dictate and sign the report of a procedure done by a partner? We believe he should not.

In this particular case, the primary care physician was spared because he was not sued. The team taking care of a patient *must work together to prevent patient injury* if medical malpractice losses are to be avoided in the present medicolegal environment.

president's page



CLARENCE R. SANDERS

The Elderly Deserve Our Compassion

Experts tell us that between the years 1983 and 2035, the elderly population will double to 58 million or 19.4% of the total population. One of eight individuals will be in the older age group by the year 2000. Because this segment of our society suffers most from the ravages of aging, they are, consequently, the people most likely to be relegated to nursing homes and, in far too many incidences, those most likely to be virtually forgotten by their families and friends.

It's understandable that those of us who practice medicine day-by-day might tend to become calloused to some degree, but each time I make my regular rounds of the local nursing homes, I am brought face-to-face with the harsh realities of the real plight of the aged. And I find, as I grow older, that this reality is gaining greater significance—for, in much less time than I care to think about, "there, too, might be I." When I see firsthand how many of our fine, older citizens are forced to spend the final days of their lives—deprived of any semblance of dignity or pride, and, most distressing of all, denied any signs of affection or real concern from those to whom they have devoted their lives—I find myself feeling more respect for the tradition of some of the early Indian tribes. They simply allowed their elderly tribe members to walk alone into the desert or the mountains to die. While it may have been singularly cruel, at least it was quick.

Nursing homes, per se, are not to blame for this deplorable situation. They provide a necessary and valuable service, albeit some more so than others; but, nevertheless, it remains to us, as medical practitioners, and to the families of these old people, to provide that special touch that can transport them from being just worn-out old bodies to being living, breathing human beings, who, like the rest of us, want to be loved, respected, and accepted.

Dr. Joseph Boyle, immediate past-president of the American Medical Association, recently related a little story which dramatizes poignantly the point I am attempting to make. Dr. Boyle said that one morning he and his residents and interns were making their rounds and found themselves standing at the bedside of a chronically ill old man. They proceeded to discuss the old gentleman's condition at length and in particularly complicated medical jargon. The old man listened intently and then he tugged at Dr. Boyle's sleeve. As Dr. Boyle bent to listen, the patient said, "Doctor, just remember—there's a man inside this body."

I am reminded of this each time I find myself hurrying through a seemingly routine examination. Our elderly patients, even though they may not be able to actively respond to our ministrations, have feelings and rights too. They deserve our respect, our dedicated care, and, infinitely important, our compassion. Never would the Golden Rule apply more fundamentally. "Do unto others as you would have them do unto you."

clarence R Sanders MD

journal of the tennessee medical association

PUBLISHED MONTHLY

DEVOTED TO THE INTERESTS OF THE MEDICAL

PROFESSION OF TENNESSEE

OFFICE OF PUBLICATION: 112 LOUISE AVENUE, NASHVILLE, TN 37203

JOHN B. THOMISON, M.D., EDITOR

ADDISON B. SCOVILLE, JR., M.D., ASSOCIATE EDITOR
JEAN WISHNICK, MANAGING EDITOR

Acceptance for mailing at special rate of pastage provided for in Section 1103, Act of October 3, 1917, authorized July 15, 1932

Copyright for protection against republication Journals of the American Medical Association and of other state medical associations may feel free to quote from this Journal whenever they desire merely giving credit to this publication

Address papers, discussions and scientific matter to John B. Thomison, M.D., Editor, P.O. Box 70, Nashville, TN 37202

Address organizational matters to L. Hadley Williams, Executive Director, 112 Louise Avenue, Nashville, TN 37203

COMMITTEE ON SCIENTIFIC AFFAIRS

OSCAR M. McCALLUM, M.D., Chairman, Henderson SIDNEY L. BICKNELL, M.D., Jackson CLAUDE H. CROCKETT, JR., M.D., Bristol WINSTON P. CAINE, M.D., Chattanooga TED W. HILL, M.D., Gallatin FRANCIS W. GLUCK, JR., M.D., Nashville JOHN B. THOMISON, M.D., Nashville, Ex-Officio

AUGUST, 1985

editorials

Intimations of Immortality

. . . Two vast and trunkless legs of stone Stand in the desert . . . And on the pedestal these words appear: 'My name is Ozymandias, king of kings: Look on my works, ye mighty, and despair!' Nothing beside remains. . . .

—Percy Bysshe Shelley Ozymandias

Despite the pains men take to avoid being forgotten, though they may buy some time, oblivion ultimately overtakes us all. The best hope for remembrance is family, but even that generally runs out after a few generations. At best, Fate is quixotic in bestowing her gifts. Many long forgotten civilizations have been brushed up from the sand, ancient galleys have been raised from the ocean floor, and from volcanic ash whole cities have been exhumed. Individual names turn up with each of those discoveries, and from some very pedestrian documents we know a lot about some rather ordinary individuals who lived a very long time ago. Though much of the information comes from tombs, more is simply incidental to daily existence.

Contrariwise, whole civilizations, such as Atlantis, for instance, remain lost, assuming ancient memories of them are true, and it seems not unlikely they are, considering the numbers of once presumably mythical cultures already discovered. It is a quirk of Fate that Ozymandias' name should turn up after several millenia on a lonely pedestal in the desert, when it was a name to cause only the archaeologist and poet to take notice, and no one to despair.

If we think of Westminster Abbey at all, we tend to consider it the final resting place of Britain's great, and indeed it is, for many of her rulers, statesmen, and military men are enshrined there—among them, of all people, Benedict Arnold. It is an honor Westminster Abbey must share, however. Britain's two greatest military heroes, Wellington and Nelson, rest in St. Paul's Cathedral in Old London Town, and one soon finds in traveling about the British Isles that in fact her most honored dead are widely distributed in various cathedrals, churches, and churchyards.

In a mortuary chest in the choir of the Cathedral Church of the Holy Trinity, St. Peter, St. Paul, and St. Swithun in Winchester, Hants, generally referred to simply as Winchester Cathedral, rest the bones of many of England's early kings and queens, including King Canute the Dane and his wife Emma, who were great benefactors of Westminster. In even earlier days Winchester was the capital of England, and had the kingdom of Alfred the Great been retained by his successors, Winchester might have displaced London as the seat of the government, and its cathedral the one in Canterbury as that of the Primate of all England.

On the grounds before the magnificent West-

gate of Winchester Cathedral are two impressive monuments to Hampshire's war dead, and scattered rather haphazardly about are a few sarcophagi and headstones. One a little more prominently situated than most caught my eye and then immediately captured my attention and my camera lens. It reads, in its entirety:

In Memory of
THOMAS THETCHER
a Grenadier in the North Regt
of Hants Militia, who died of a
violent fever contracted by drinking
Small Beer when hot the 12th of May
1764. Aged 26 Years.

In grateful remembrance of whose universal good will towards his comrades, this Stone is placed here at their expence as a small testimony of their regard and concern.

Here sleeps in peace a Hampshire Grenadier Who caught his death by drinking cold Small Beer. Soldiers be wise from his untimely fall And when ye're hot drink Strong or none at all.

This memorial being decay'd was restor'd by the Officers of the Garrison A. D. 1781. An honest Soldier never is forgot Whether he die by Musket or by Pot.

The Stone was restored by the North Hants
Militia when disembodied at Winchester
on 26th April, 1802 in consequence of
the original Stone being destroyed.

And again replaced by
the Royal Hampshire Regiment, 1966.

On first glance, being struck by the medically anomalous cause of the Grenadier's death. I was moved to mirth, but as I read on, I was touched by the tribute paid this ordinary soldier. My final reaction, though, was of wonderment at the remarkable durability of the tribute, which had spanned more than 200 years, as one headstone after another collapsed and was dutifully replaced. The dead soldier was being accorded the same solicitous attention that St. Swithun was. for example, when the bones of the Bishop were removed in 971, something over a hundred years after his death, from a simple grave in the churchyard to a place of honor in Bishop Ethelwold's new Cathedral, and in turn on the Feast of St. Swithun in solemn procession to his own

shrine in the new Norman Minster (the present cathedral) in 1093.

As far as I could find out, nothing more is known of Thomas Thetcher than appears on the tombstone. England was momentarily at peace in May of 1764, the Seven Years War that involved all of Europe having been concluded a few months earlier. Though the 26-year-old grenadier would have had ample opportunity to see action during that time, we don't know that he did, and in fact his end seems ignominous by military standards. Had he been a hero, the stone certainly would have told us. Besides his end, the cause of which also is in doubt, we know two things about him: he was considered by his comrades a young man of universal good will, and by his officers an honest soldier.

About the last thing to occupy the ordinary 26-year-old mind is a consideration of immortality, though if Thomas Thetcher was a battle veteran he doubtless had made petitions for a delay in experiencing mortality. The humility of Bishop Swithun, later canonized, was such that he gave orders that his body be buried in the churchyard and not in the cathedral. The Bishop and Mr. Thetcher were alike in that each simply went about his given tasks, and immortality, as much as it is in the power of man to bestow, came to them, though true immortality is, of course, not within man's power to give.

Ozymandias, on the other hand, went about ensuring that his glory would live forever. He has had a lot of company in every land and every age. He still does. The lesson history teaches is that here on earth we have no continuing place. Whether we have one elsewhere or not is a matter of faith.

While honors (read immortality), and wealth as well, may come to those who pursue them with singleness of purpose, no one had better count on it. A more reliable course is to build a better mousetrap, though that is no sure way either. Too many of our colleagues are working toward success from the wrong direction. Maybe not many now, but it seems more and more are. Any is too many, as pursuing that course will reduce all of Medicine's mighty works to rubble around our feet. Look around, and you can see it happening. Friends and colleagues, don't let it.

A whole lot more people have been undone by the heady vapors of success, power, and glory while cold, than by a draught of Small Beer while hot.

J.B.T.

AUGUST, 1985 525

Sweet Bitterness (Or Bitter Sweetness)

The other morning one of our colleagues walked into the doctor's lounge, and after opening the refrigerator door, apparently thought better of it, and closed it with the words, "I don't think I'll have one of the 'new Cokes.' " Agreeing that the new Coke isn't it, we began reminiscing about how good the old fountain Coke used to be. There were lime Cokes and lemon Cokes, and that greatest of all drinks, the cherry Coke.

Maybe all that was only nostalgia, but preference for the old Coke is not; the new one is too sweet, and as far as I'm concerned, the slogan is "Coke is out." I note with some satisfaction that a militant organization has formed in Oregon, with considerable nationwide support, dedicated to bringing the old Coke back. They are making all sorts of dire predictions about the future of the new Coke, allowing as how it won't sell. Well, I allow it will, because I am persuaded that despite what the super-sales hype of the TV commercials would have you believe, the youth of this nation doesn't care what it drinks so long as it is cold and wet and very sweet, and they are the ones who drink most of the stuff. Why else do you think it is that Coca-Cola makes all those other fluids indelicately but accurately described as belly wash? They know. Did you ever try to get just water on an airplane? You can, but it isn't easy. It's much easier just to say, "Sprite," which Coca-Cola makes, or "Seven-Up," which it doesn't (I think). If you think you can hurt Coca-Cola by switching to ginger ale, forget it. They own Canada Dry, too.

So why, since Coca-Cola has for practical purposes cornered the market on soda pop, did they monkey around with a time-tested, popular drink? They did it for the same reason that California Chablis is sweeter (much) than French Chablis. It is not by accident or a vagary of nature. Young tastes have become sweeter, and Coca-Cola (who incidentally owns wineries, too, so that if you think you can cut them out by switching to wine, forget that, too, and befriend your liver)—as I was about to say, Coca-Cola is not really interest so much in what the old friends of Coke think. Guess where they test-marketed the new swill? It wasn't among the World War II generation.

Until the past few years it was believed that when Mount Vesuvius erupted in 79 AD most of the inhabitants of Herculaneum, sister city of Pompeii, escaped, since almost no bodies were found in the excavation which began when Herculaneum was discovered something over a century ago buried under 60 feet of ash. Recent excavations along the ancient waterfront solved that mystery. Literally thousands of well-preserved skeletons were found entombed in the bathhouses along the beach, whence their owners had fled the erupting volcano.

That cache of mostly intact skeletons—the inhabitants of that Roman beach resort were suffocated instantly and not burned or crushed—has been a bonanza to ethnologists and paleontologists, and strangely, at first glance, to nutritionists as well. It is the first time any sizeable numbers of skeletons from this, or for that matter any, civilization have been available for study, and it has produced some surprises. High among them is the almost universally superb condition of the teeth in these Romans of all ages. Why had they not rotted out, as the teeth of all the more recent members of Western culture have?

Sugar was invented in India some 3,000 years before Christ, but it wasn't until about a thousand years ago, give or take a couple of centuries, that it made its way to Europe. If Herculaneans wanted sweets they had to turn to fruit trees or honey bees. As soon as sugar hit the Common Market, teeth began to fall. Sugar is bad for your pearly whites; that that is not a figment of your dentist's imagination has now gained archaeological support—maybe.

Dentists have known for years—maybe centuries, for all I know—that mottled teeth don't rot. Mottling is caused by fluorosis, which is caused by a steady diet of fluorine, which in turn comes from concentrations of fluorine in the drinking water greater than 1 part per million (PPM). Endemic fluorosis occurs in some 28 states and in parts of Europe, Africa, and Asia. Sometimes concentrations reach 8 PPM. Evidence is overwhelming that caries occur in inverse proportion to fluorine in the water up to 1 PPM. Above that it doesn't matter. Maybe the soil at the edge of the volcano was rich enough in fluorides that Herculaneans wouldn't have had cavities anyway.

So, if you like candy and/or the new Coke, should you live on the edge of a volcano to preserve your teeth? It reminds one of the comment of a pathologist friend to the effect that every

jogger he had ever autopsied sure was in good shape. It is probably safer in the long run to put fluorine in the drinking water and brush your teeth with fluoridated toothpaste.

The next time your favorite health nut attacks the policy of putting fluoride in the water, tell him where can go—out to Mount Saint Helens, is where. If he tells you he wouldn't be caught dead eating candy or drinking Coke, new *or* old, anyway, you might tell him where he could be caught dead. Or you might be charitable and just ignore him, though such people sometimes make themselves pretty hard to ignore.

J.B.T



Harry L. Davis, age 63. Died March 30,1985. Graduate of University of Illinois College of Medicine. Member of the Memphis-Shelby County Medical Society.

Guy M. Francis, age 71. Died June 13, 1985. Graduate of Baylor University School of Medicine. Member of Chattanooga-Hamilton County Medical Society.

Gilbert A. Varnell, age 62. Died June 11, 1985. Graduate of University of Tennessee College of Medicine. Member of Bradley County Medical Society.

TMA Members Receive AMA Physician's Recognition Award

Sixty-six TMA members qualified for the AMA Physician's Recognition Award during May 1985. To qualify for the PRA, a minimum of 150 hours of continuing medical education must be earned over a three-year period; 60 of these hours must be Category 1.

This list does not include members who reside in other states. Names of additional PRA recipients will be published as they are received from AMA.

Luther B. Adair, M.D., Nashville William M. Adams, Jr., M.D., Memphis William T. Aldrich, M.D., Cleveland Ralph I. Barr, M.D., Columbia Charles B. Beck, M.D., Madison Robert E. Bowers, M.D., Chattanooga William D. Brackett, M.D., Chattanooga Jorge R. Brassetti, M.D., Nashville Phillip L. Bressman, M.D., Nashville Walter U. Brown, Jr., M.D., Nashville Susan H. Bryant, M.D., Nashville Phil D. Craft, M.D., Chattanooga Rufus E. Craven, M.D., Memphis Randall L. Dabbs, M.D., Knoxville Richard J. Davis, M.D., Nashville Armando F. DeVega, M.D., Oak Ridge Raphael H. Duncan, M.D., Concord Roy C. Ellis, M.D., Harrogate Don A. Flora, M.D., Kingsport Bruce E. Galbraith, M.D., Tullahoma Jan M. Gorzny, M.D., Dickson John W. Hammon, Jr., M.D., Nashville Douglas B. Haynes, M.D., McMinnville Bruce E. Herron, M.D., Jackson John R. Hilsenbeck, Jr., M.D., Memphis Henry S. Jennings, M.D., Nashville Janet K. Johnson, M.D., Knoxville John W. Johnson, M.D., Memphis Thomas M. Jordan, M.D., Nashville Robert E. Knowling, M.D., Knoxville John D. Lay, M.D., Savannah Buford B. Ledbetter, M.D., Clarksville Michael F. Lett, M.D., Athens

Jay F. Lewis, II, M.D., Chattanooga Melvin G. Lewis, M.D., Lewisburg Robert J. Linn, M.D., Nashville Travis E. Lunceford, M.D., Memphis David V. MacNaughton, Jr., M.D., Chattanooga Gerald K. Mazza, M.D., Cleveland Embry A. McKee, M.D., Nashville Hiram B. Moore, M.D., South Pittsburg Harry C. Moss, Jr., M.D., Johnson City Billy C. Nesbett, M.D., Sparta Richard A. Obenour, M.D., Knoxville Evelyn M. Ogle, M.D., Memphis Henry C. Reister, III, M.D., Johnson City Jack A. Rule, M.D., Knoxville Jerry E. Sanders, M.D., Knoxville Robert W. Seaton, M.D., Maryville Indravadan K. Shah, M.D., Chattanooga Charles W. Sienknecht, M.D., Chattanooga Frank W. Stevens, Jr., M.D., Nashville Lee W. Stewart, M.D., Nashville James N. Sullivan, M.D., Nashville Grafton H. Thurman, M.D., Madison James M. Turnbull, M.D., Johnson City John B. Turner, M.D., Springfield Antonio Valdes-Rodriguez, M.D., Kingsport Robert A. Vegors, M.D., Jackson Ramona N. Walsh, M.D., Nashville David T. Watson, M.D., Knoxville Donald C. Watson, M.D., Memphis Thomas M. Webster, M.D., Greeneville Michael L. Whitson, M.D., Johnson City John O. Williams, M.D., Mt. Pleasant Claude H. Workman, III, M.D., Nashville

AUGUST, 1985 527

new members

The JOURNAL takes this opportunity to welcome these new members to the Tennessee Medical Association.

CHATTANOOGA-HAMILTON COUNTY MEDICAL SOCIETY

Joel C. Ledbetter, M.D., Chattanooga Cornelius J. Mance, M.D., Hixson Neal Adams Robinson, M.D., Chattanooga

GREENE COUNTY MEDICAL SOCIETY Frank H. McNeil, M.D., Mosheim Janet S. McNeil, M.D., Mosheim

HENRY COUNTY MEDICAL SOCIETY Seung H. Lee, M.D., Paris

KNOXVILLE ACADEMY OF MEDICINE

James F. Place, M.D., Knoxville Richard Williams, M.D., Knoxville

LINCOLN COUNTY MEDICAL SOCIETY

Warren T. Norman, M.D., Fayetteville

MEMPHIS-SHELBY COUNTY MEDICAL SOCIETY

Carol Benthall, M.D., Memphis Elaine Marie Bukowski, M.D., Memphis Belvia Carter, M.D., Memphis Frederick L. Cole, M.D., Germantown Richard W. Dodd, M.D., Memphis John M. Downs, M.D., Memphis Sarah Jean Fitch, M.D., Memphis James B. Flanagan, M.D., Memphis Gerald S. Golden, M.D., Memphis Sidney D. Jones, M.D., Memphis Jack A. Goodman, M.D., Memphis Laila T. Kassees, M.D., Memphis Gary W. Kimzey, M.D., Memphis Paul King, M.D., Memphis Jennifer J. Kinnard, M.D., Memphis Bernard Kordan, M.D., Memphis Carter E. McDaniel, III, M.D., Memphis Dwight Melvyn Moore, M.D., Memphis Christine T. Mroz, M.D., Memphis Charles W. Munn, M.D., Memphis Harvey L. Nissman, M.D., Memphis Phillip Carl Rosmarin, M.D., Memphis Vinod H. Shah, M.D., Germantown Richard E. Seviers, M.D., Memphis Joseph Samuel Smith, M.D., Memphis Alagiri P. Swamy, M.D., Memphis Santiago R. Vera, M.D., Memphis Trong Van Vu, M.D., Memphis Yair Walzer, M.D., Memphis William Williams, III, M.D., Memphis (Students)

Charles C. Adams, Memphis Michael Forbes Counce, Memphis Thomas Holt Haga, Memphis John Michael James, Memphis Karen Thrasher Lewis, Memphis Vinh Duc Nguyen, Memphis Virginia Ann Pugh, Memphis

OVERTON COUNTY MEDICAL SOCIETY Larry Mason, M.D., Livingston

personal news

Frank E. Bishop, M.D., Chattanooga, has been inducted as a Fellow of the American Academy of Psychoanalysis.

The Thomas Frist chair has been established in the department of medicine at Vanderbilt University Medical Center, through an endowment contributed by friends of Thomas F. Frist, Sr., M.D., founder of Hospital Corporation of America.

Cassell A. Jordan, M.D., Chattanooga, has been inducted as a Fellow of the American Academy of Pediatrics.

The Potter Foundation has endowed a chair in the department of medicine at Vanderbilt University Medical Center in honor of Addison B. Scoville, Jr., M.D., clinical professor of medicine emeritus and currently executive director of alumni services and professional relations at Vanderbilt Medical Center.

David Stanley, M.D., Oak Ridge, was chosen Outstanding Regent of the Year by the Board of Regents of the United States section of the International College of Surgeons.

announcement/

CALENDAR OF MEETINGS

NATIONAL

American College of Emergency Physi-

Sept. 9-12

	cians—MGM Grand Hotel, Las Vegas
Sept. 12-14	American Association for the Surgery of
	Trauma—Westin Hotel, Boston
Sept. 18-20	Clinical Orthopaedic Society—Hyatt Re-
	gency, Birmingham
Sept. 21-25	Association of Medical Illustrators—Hyatt
	Regency, Cincinnati
Sept. 26-Oct. 1	Association of American Physicians and
	Surgeons—Inter-Continental, Maui
Sept. 27-Oct. 2	American Fertility Society—Marriott Hotel,
	Chicago

Sept. 29-Oct. 3 American Academy of Ophthalmology— Moscone Center, San Francisco

Sept. 29-Oct. 4 American Academy of Physical Medicine and Rehabilitation—Hyatt Regency, Kansas City,

Sept. 29-Oct. 4	American Society of Therapeutic Radiology		Hilton and Towers
	and Oncology—Fontainebleau Hilton, Miami	Oct. 17-18	American College of Clinical Pharmacolo-
	Beach		gy—Barclay Hotel, Philadelphia
Sept. 29-Oct. 4	Congress of Neurological Surgeons—Shera-	Oct. 17-20	Westwood Carolina Conference on Clinical
	ton Waikiki, Honolulu		Dermatology—Marriott Resort, Hilton Head
Oct. 1-5	American Group Practice Association—		Island, S.C.
	Caesar's Palace, Las Vegas	Oct. 18-19	American Academy of Otolaryngic Aller-
Oct. 2-5	American Neurological Association—Mar-		gy—Atlanta
	riott Hotel, Chicago	Oct. 18-20	American Pain Society—Loews Anatole
Oct. 2-6	American Academy of Cerebral Palsy and		Hotel, Dallas
	Developmental Medicine—Westin Hotel,	Oct. 18-22	American Academy of Neurological and
	Seattle		Orthopaedic Surgeons—Caesar's Palace
Oct. 2-6	Christian Medical Foundation International		Hotel, Las Vegas
	—Sheraton Sandkey, Clearwater, Fla.	Oct. 19	American Rhinologic Society—Atlanta
Oct. 5-8	International Society for Artificial Organs—	Oct. 20-24	American Academy of Otolaryngology-Head
	Palmer House, Chicago		and Neck Surgery—Hyatt Regency, Atlanta
Oct. 8-11	American Institute of Ultrasound in Medi-	Oct. 22-25	American Academy of Occupational Medi-
00011	cine—Dallas Convention Center		cine—Sheraton World, Orlando, Fla.
Oct. 9-11	American School Health Association—Ex-	Oct. 23-27	American Academy of Child Psychiatry—
July 11	celsior Hotel, Little Rock, Ark.	000.2027	Marriott/Hilton, San Antonio, Tex.
Oct. 9-13	American Academy of Psychiatry and the	Oct. 24-27	American Association for Hand Surgery—
Oct. 7 15	Law—Marriott Hotel, Albuquerque, N.M.	Oct. 2127	Vista International, Kansas City, Mo.
Oct. 9-13	American College of Gastroenterology—	Oct. 24-27	American Society of Bariatric Physicians—
001.715	Franklin Plaza, Philadelphia	001. 2 / 2/	Riviera, Las Vegas
Oct. 10-12	Central Association of Obstetricians and	Oct. 27-31	American College of Chest Physicians—Hil-
Oct. 10-12	Gynecologists—Fairmont Hotel, New	Oct. 27 51	ton, New Orleans
	Orleans	Oct. 27-31	Medical Group Management Association—
Oct. 10-13	American Academy of Clinical Psychiatry—	Oct. 27-31	Palmer House, Chicago
Oct. 10-13	Meridien, San Francisco	Oct. 27-Nov. 1	American Society of Maxillofacial Sur-
Oct. 10-13	American Academy of Family Physicians—	Oct. 27-140V. 1	geons—Kansas City Conventions Center,
Oct. 10-13	Marriott Hotel, Anaheim, Calif.		Kansas City, Mo.
Oct. 10-13		Oct. 27-Nov. 1	
Oct. 10-13	American Society of Internal Medicine—	Oct. 27-Nov. 1	American Society of Plastic and Recon-
Oat 10.12	Hyatt Regency, Washington, D.C.		structive Surgeons—Kansas City Conven-
Oct. 10-13	Association of Clinical Scientists—Drake		tion Center & Westin Hotel, Kansas City,
O . 11 12	Hotel, Chicago		Mo.
Oct. 11-13	American College of Nuclear Medicine—		
0 . 10 15	New York		CTATE
Oct. 12-15	American Medical Directors Association—	C+ 22 20	STATE National Association of Madical Form
0 . 40.46	Honolulu	Sept. 23-28	National Association of Medical Exam-
Oct. 12-16	American Society of Anesthesiologists—San	C+ 20 O + 1	iners—Peabody Hotel, Memphis
0 10 00	Francisco Hilton	Sept. 30-Oct. 1	Tennessee Valley Medical Assembly—
Oct. 12-20	American Medical Tennis Association—		Chattanooga Choo Choo
	Town & Country, San Diego	Oct. 10-12	Child Neurology Society—Peabody Hotel,
Oct. 13-18	American College of Surgeons—Chicago		Memphis

GERIATRICS MEETING

In the planning stages is a fall meeting sponsored by the TMA Geriatrics Committee to be held at Quality Inn Downtown in Knoxville, Sept. 27-29. In addition to the program, there will be an organizational meeting of what is intended to be a new geriatrics group to be called the Tennessee Geriatrics Association. The program outline follows:

Sept. 27	Registration/Hospitality Suite	7:00-8:30 p.m.
Sept. 28	Scientific Sessions	9:00-12:00 noon
Sept. 28	"TGA" Business Meeting	1:30-3:00 p.m.
Sept. 29	Practical Sessions	9:00-12:00 noon

Proposed scientific topics might include Iatrogenic Disease, Physiology of Aging, Hypertension in Older People, Incontinence, Falls, Pathology of Alzheimer's Disease, Bone Disease in Older People, and The 3-D's: Depression, Dementia, and Delirium.

Practical topics to be considered are Utilization of Non-Physicians in Geriatric Practice, Bioethics, Assessment of the Older Patient, Attitudinal Biases, Physicians and the Extended Care Facility, Marketing a Geriatric Practice, DRG Workshop, Role of the Hospital in Geriatric Care, and What Older People Want from Physicians and Other Health Care Professionals.

The program committee will consist of Drs. Charles Clarke, Richard Lane, and M. F. Langston of the TMA Geriatrics Committee, Dr. William Applegate of UTCHS-Memphis, and Dr. F. Tremaine Billings of Vanderbilt.

For additional information call Dr. James A. Greene or Diane Burkett, administrative assistant, in Knoxville at (615) 522-3955.

AUGUST, 1985 529

REPORT SUMMER 1985

COMPARE ALAMO IN THESE FAVORITE CITIES

		ECONOMY	COMPACT	MIDSIZE	FULLSIZE	LUXURY
ALAMO	Atlanta Los Angeles Orlando	\$19	\$21	\$23	\$25	\$29
HERTZ	Atlanta	\$37.88	\$41.99	\$45.99	\$48.99	\$62.99
	Los Angeles	\$39.99	\$44.99	\$46.99	\$58.99	\$69.00
	Orlando	\$29.99	\$31.99	\$39.99	\$39.99	\$59.99
AVIS	Atlanta	\$30.00	\$35.00	\$38.00	\$43.00	\$58.00
	Los Angeles	\$40.00	\$44.00	\$48.00	\$49.00	\$70.00
	Orlando	\$30.00	\$32.00	\$34.00	\$38.00	\$59.00
NATIONAL	Atlanta	\$38.00	\$42.00	\$46.00	\$49.00	\$63.00
	Los Angeles	\$40.00	\$44.00	\$48.00	\$49.00	\$63.00
	Orlando	\$36.00	\$40.00	\$44.00	\$48.00	\$71.00
BUDGET	Atlanta	\$32.00	\$32.00	\$32.00	\$32.00	\$39.95
	Los Angeles	\$32.00	\$32.00	\$32.00	\$32.00	\$39.95
	Orlando	\$32.00	\$32.00	\$32.00	\$32.00	\$39.95

ALAMO GUARANTEES ASSOCIATION 4/30/85 for a one day, week day rental for a 2-door car. Against this, you must MEMBERS THE LOWEST RATES

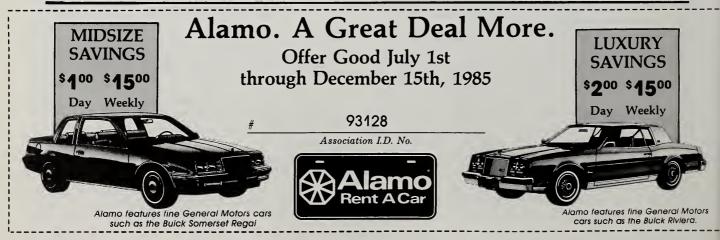
- Now take advantage of your guaranteed rates nationwide through December 31, 1985.
- Upon making reservations inquire about Alamo's special sale rates.
- For Instant Reservations:
- Call Toll Free 1-800-732-3232
- Request Plan "BY" and Your Association I.D. Number

Comparative rates shown are for airport served locations as quoted by reservation agents at the respective companies' toll-free number. Rates quoted on apply your Association discounts to actually determine lowest net rate.



Low rates are guaranteed nationwide.

Every Alamo car is fully equipped with free unlimited mileage, automatic transmission, air conditioning and AM/FM stereo.



SEPTEMBER, 1985 VOL. 78, NO. 9

Current Management of Renal Calculi

AUBRA D. BRANSON, M.D. and STEVEN A. MORRIS, M.D.

Urolithiasis, or kidney stones, is one of the major causes of morbidity of the urinary tract. Significant advances in the treatment of kidney stone disease have been made within the past five years. Procedures which complement or even replace open surgery are becoming increasingly routine. New technologic advances have allowed even greater latitude in kidney stone disease treatment.

It is estimated that 2% to 3% of the U.S. population is afflicted by kidney stones, an incidence comparable to that of diabetes. Most calculi pass spontaneously, and of those that do not, many can be removed by simple manipulation, but up to 30% become lodged in the upper ureter or kidney, and until recent years the only alternative was open surgery. No longer is surgery the only option for many suffering from stone disease.

The field of renal and ureteral stone surgery is in a period of profound and permanent change.

From the Stone Treatment Center, Park West Hospital, Knoxville, Reprint requests to Park West Hospital, P.O. Box 22993, Knoxville, TN 37933 (Dr. Branson).

*The first extracorporeal shock wave lithotripter in Tennessee is scheduled to begin operation in late July at the HCA Stone Treatment Center at Park West Hospital in Knoxville. Units will open later in Nashville and Memphis. The machine received FDA approval in December, 1984. For those wishing more information on ESWL, contact the HCA Stone Treatment Center at Park West Hospital. 1-800-631-3046 in Tennessee. 1-800-423-5410 outside Tennessee for more information.

The term *endourology* has been used to describe the endoscopic manipulation and removal of renal and ureteral calculi. Percutaneous lithotripsy, in which a percutaneous access is made to the kidney followed by dilation of the tract. is usually done under general or regional anesthesia. A nephroscope is then inserted and the stone removed directly or broken up and removed by the ultrasonic lithotrite. This technique, which has become common in most larger hospitals, has resulted in less patient morbidity, a shorter hospital stay and a quicker return to work.

A newer technique for ureteral stone removal requires a ureteroscope, which is becoming available in more hospitals. This is a rigid or flexible instrument that can be passed directly into the ureter through the bladder to visualize the stone and allow direct removal or the stone can be broken up by an ultrasonic lithotrite. This technique has best success for stones in the lower and midureter. Percutaneous removal is best for renal and upper ureteral stones.

The development and use of percutaneous and transureteric lithotripsy are major advances, and a significant improvement over standard stone surgery, but they are still invasive procedures. A significant advance in urology is extracorporeal shock wave lithotripsy (ESWL),* in which acoustic shock waves directed at the kidney stone pulverize the stone into sand-sized particles, which are then allowed to pass over the next several

RENAL CALCULI/Branson

days through normal elimination. ESWL is a totally noninvasive procedure which has a high success rate of eliminating kidney stones.

Extracorporeal shock wave lithotripsy (lithotripsy comes from the Greek word "lithos" meaning stone and "tripsis" meaning to crush) was developed in the mid-1970s by the Dornier Corp., a German aircraft company. The concept for using shock waves to disintegrate kidney stones was first postulated by aircraft technicians who found that raindrops hitting the fuselage of jet fighters traveling faster than the speed of sound set up high-energy shock waves. The plane, if exposed to enough of these waves, could disintegrate under the strain. A water bath is the medium through which the shock waves are transmitted to disintegrate the kidney stone.

Prior to ESWL, the patient is given a regional or general anesthetic to avoid any pain and to

help reduce body movement during the procedure. The patient is lowered into a demineralized water bath, and two independent x-ray image-conversion systems are arranged to locate the position of the stone (Fig. 1). When the stone is aligned along both axes, it is then located in the focus of the shock-wave front. An underwater spark discharge generates the shock waves, approximately 500 to 1,500 of which bombard the kidney stone during the one-hour procedure. Dr. Christian Chaussy, one of the developers of the machine, has reported a 90% success rate in breaking stones and clearing the urinary tract. Of 1,454 patients treated in Munich, Germany with ESWL from February, 1980 through October, 1984, 1,249 required only one treatment, 173 required two treatments, and 23 required three treatments. This included 16 staghorns, 91 partial staghorns, 216 multiple stones, and 46 bilateral stones (personal communication).

Approximately 50% of patients treated will

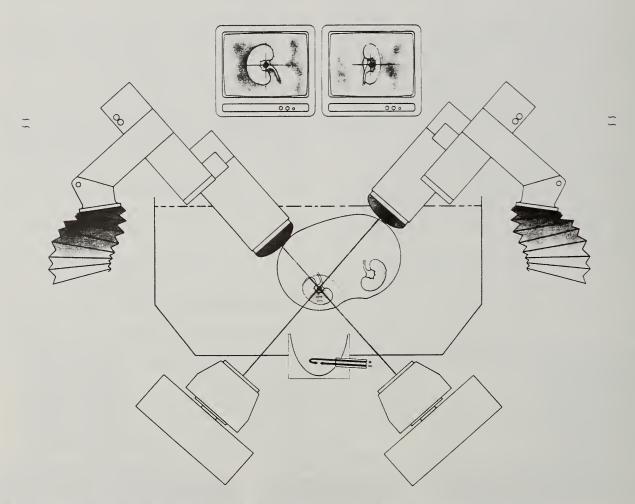


Figure 1. The position of the kidney stone in the patient is located by a two-axis x-ray system whose axes intersect exactly in the second focus of the reflector. A high-precision positioning device moves the patient in three axes so that the kidney stone can be placed in the required position with a precision of 1 ml.

require some pain medication as the sand passes through the ureter. After ESWL, 90% of patients will become stone-free, but 10% will retain some sand-like particles in the kidney, the significance of which is not clear. About 10% will require ancillary procedures, such as stone manipulation, to aid in stone passage. The larger the stone burden the more frequent are second treatments, ancillary procedures, and retained stone fragments.

The first contraindications for ESWL were infected stones, stones larger than a cherry, high risk patients, and ureter stones, but as more experience was gained, it was discovered that some of the patients in these categories could be successfully treated. The remaining contraindications are obstruction in the urinary passage below the stone, insufficient contract density of the stone, and stones in the lower ureter.²

Morbidity is decreased substantially with ESWL. After ESWL the patient remains in the

hospital one to four days as opposed to seven to ten days following surgery. The recovery period at home is a week or less, compared to four to six weeks after open surgery.

In summary, one can see that there is overlap in stones that can be treated by percutaneous ureteroscope and ESWL. Most patients prefer the noninvasive advantage of ESWL at this time, but it is anticipated that the roles of these methods will become complementary and not competitive as additional experience is gained. It is abundantly clear, however, that stone surgery itself will never again be a common procedure.³

REFERENCES

- Lithotripters: Noninvasive Devices for the Treatment of Kidney Stones, a clinical service briefing (excerpted). American Hospital Association Hospital Technology Series Guideline Report. 1985. p 2.
 Chaussy C, Schmiedt E, Jocham D, et al: Extracorporeal shock wave lith-
- Chaussy C, Schmiedt E, Jocham D, et al: Extracorporeal shock wave lithotripsy (ESWL) for treatment of urolithiasis. *Urology* 23 (special issue): 59, 1984.
 Seguru JW: Endourology. *J Urol* 132:1079, 1984.

		Ai	PRIL 19	86		
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		1	2	3	4	5
6	7	8	9 TMA Opi	10 151ST AN yland Hot	11 INUAL ME el—Nash	12 ETING ville
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	NOTES		

Evolution of Toe-to-Hand Transfer

CONNIE HIERS, M.D.; SCOTT W. VANN, M.D. CAULEY W. HAYES, M.D.; and JOHN D. FRANKLIN, M.D.

Introduction

Thumb reconstruction is best achieved using toe-to-hand transfer with microvascular techniques. Ideally, the reconstructed thumb should have adequate sensibility and mobility, and be at adequate length. It should resemble a thumb with a nail and pulp of adequate bulk. Also, donor site morbidity should be low.

History

The first thumb reconstruction was done by Nicoladoni in 1897 using a staged-pedicle toe flap.² Littler, in 1953, reconstructed a thumb using pollicization of the index finger, and in 1964, Buncke successfully replanted amputated digits of rhesus monkeys using microvascular techniques.³ Komatsu and Tamai replanted an amputated thumb in 1965.⁴ Buncke, in 1973, reconstructed a thumb using toe-to-hand transfer with microvascular techniques,⁵ and in 1980, O'Brien reconstructed a thumb using the wrap-around toe flap; the following year, he used double toe transfers to reconstruct opposable digits.⁶

We have used four basic methods in 13 reconstructions. The first involves transferring all the great toe. The second method uses the wraparound toe flap supported with iliac bone graft. The third method is a modification of the wraparound toe flap, taking the distal toe phalanx for nail bed support. The fourth method involves taking all of the great toe, but trimming down the medial aspect at the nail, nail bed, and bone to obtain the appropriate diameter.

Case 1 (Method 1)

A 13-year-old girl had a congenitally absent right thumb. We constructed a thumb using all

of her great toe, taken down to the metatarsalphalangeal joint. Figs. 1 and 2 show her reconstructed thumb and the donor defect.

Discussion: The great toe is larger than the thumb. If growth is not needed, and an intact and mobile trapezio-metacarpal joint is present, skeletal support for the thumb can be obtained from the iliac crest. The wrap-around toe flap involves taking skin, pulp, and nail on a neurovascular pedicle and using iliac bone graft for bony support. The toe skeleton is retained in the foot and the great toe can be reconstructed.



Figure 1. Reconstruction of thumb using all great toe (case 1).



Figure 2. Donor defect using all great toe (case 1).

From the Department of Plastic Surgery, Chattanooga Unit, University of Tennessee College of Medicine. Dr. Hiers is now in practice in Jonesboro, Ark.

Presented at the Annual Meeting of the Tennessee Medical Association, Memphis, April 1985.

Reprint requests to 816-B Rains, Jonesboro, AR 72401 (Dr. Hiers).



Figure 3. Reconstruction of thumb using wrap-around toe flap and iliac crest (case 2).



Figure 4. Donor defect using wrap-around toe flap and distal toe phalanx (case 3).

Case 2 (Method 2)

A 32-year-old woman sustained an avulsion-amputation of her left thumb when it was caught in the reins of a horse. When reimplantation was unsuccessful, reconstruction was accomplished using the wrap-around toe flap and iliac graft (Fig. 3). Great toe length was preserved and the toe was reconstructed using a cross-toe flap and split thickness skin graft.

Discussion: A wrap-around toe flap with iliac crest provides little support for the nail bed, resulting in a spoon nail. If the distal toe phalanx is taken with the toe wrap-around flap, spooning is eliminated.

Case 3 (Method 3)

A 32-year-old man sustained traumatic amputation of his right thumb while working at a mill. Replantation was not attempted. The thumb was reconstructed using a wrap-around toe flap with the distal phalanx and an iliac graft. The remaining toe stump was shortened and the foot defect was closed (Fig. 4).

Discussion: The wrap-around toe flap, with or without the distal toe phalanx, requires a second donor defect. The iliac bone graft may undergo absorption, may fracture easily, and has little potential for growth. In addition, the toe donor site may be somewhat difficult to close, requiring cross-toe flaps and split thickness skin grafts.

Case 4 (Method 4)

A 46-year-old male Italian sustained an avulsion-crush amputation of his thumb and index, long, and ring fingers when he caught his right

hand in a loom (Fig. 5). The index and long fingers were not salvageable, and reimplantation of his thumb and ring finger failed. One week later he underwent reconstruction using his right great toe for his thumb and his left second toe for his ring finger. The great toe was disarticulated at the metatarsal-phalangeal joint and the medial aspect of the nail, nail bed, and bone were trimmed. The donor defect and final results are shown (Figs. 6 and 7).

Discussion: A fourth technique was used, which involved taking all of the great toe, but trimming down the medial aspect of the nail, nail bed, and bone to better approximate the circumference of the normal thumb.



Figure 5. Avulsion-crush amputation to right thumb, index, long and ring fingers (case 4).



Figure 6. Reconstruction of thumb using all great toe, but trimming down medial aspect (case 4).



Figure 7. Donor defect using right great toe and left second toe (case 4).

Conclusion

Thumb reconstruction is best achieved using toe-to-hand transfer with microvascular techniques. We have reconstructed 13 hands using toe-to-hand transfer for thumb reconstruction, with 100% survival of our transfers. One patient sustained recurrent fractures of his iliac bone graft in the wrap-around flap and elected amputation of his toe. All have developed adequate mobility and protective sensation.

The great toe provides the proper appearance. skin, and nail, but its skeletal support is too large. The wrap-around toe flap with iliac graft may fracture easily, undergo some bony absorption, and has little capability of growth. Movement occurs only at the metacarpal-phalangeal joint. Wrap-around toe flap requires a second donor defect, and the foot defect may be somewhat tedious to close. Using the distal toe phalanx with the wrap-around toe flap eliminates the spoon nail appearance and allows somewhat easier closure of the foot defect.

We believe the simplest and most functional and cosmetic reconstruction is to take all of the great toe and remove the medial aspect of the nail, nail bed, and bone to obtain the appropriate diameter. The lateral aspect of the toe should be preserved, since it provides the important ulnar sensation. Nail growth is adequate, and the potential for bony growth remains. In addition, the donor defect is easily closed.

At present, toe-to-hand transfer provides the most functional thumb reconstruction.

REFERENCES

- Morrison WA, O'Brien BM, MacLeod AM: Thumb reconstruction with a free neurovascular wrap-around flap from the big toe. J Hand Surg 5:575, 1980.
 Tamai S, Hori Y, Tatsumi Y: Hallux-to-thumb transfer with microsurgical
- Tamai S, Hori Y, Tatsumi Y: Hallux-to-thumb transfer with microsurgical technique: a case report in a 45-year-old woman. J Hand Surg 2:155: 1977.
- 3. Buncke HJ. Buncke CM. Schulz WP: Immediate Nicoladoni procedure in the rhesus monkey, or hallux-to-hand transplantation utilizing microminiature vascular anastomoses. *Br J Plast Surg* 19:332, 1965.
- Komatsu S, Tamai S: Successful replantation of completely cut off thumb. Plast Reconstr Surg 42:374, 1968.
- Buncke HJ, MeLean DH. George PT. et al: Thumb replacement: great toe transplantation by microvascular anastomosis. Br J Plast Surg 26:194, 1973.
- 6. Liehtman DM, Ahbel DE, Murphy RB, et al. Microvascular double toe transfer for opposable digits—ease report and rationale for treatment. *J Hand Surg* 7:279, 1982.

Specialized Management of the Alzheimer's Disease Patient: Does it Make a Difference? A Preliminary Progress Report

JAMES A. GREENE, M.D.; JAN ASP, R.N.; and NANCY CRANE, R.N.

Introduction and Background

Of the 40% to 50% of nursing home patients suffering from dementia-like symptoms, approximately 15% to 20% may have reversible processes with such causes as B_{12} and thyroid deficiencies, metabolic imbalance, subdural hematomas, depression, and medication interactions.¹⁻³

As many as 50% to 70% of the dementia patients in nursing homes appear to have Alzheimer's disease. In addition, an estimated 20% to 25% of the Alzheimer's disease victims have an overlying depression, which can frequently be successfully treated with antidepressants, thereby improving their affective functioning.

The importance of a positive attitude by staff and family in the management of the Alzheimer patient cannot be overemphasized. Nihilistic attitudes of physicians, nurses, and families toward Alzheimer's disease patients are rampant.6 The attitude of "nothing can be done" results in nothing being done, and the functional ability of the patients is adversely affected. Health care providers and family members of Alzheimer patients need to avoid nihilistic thinking. Although there is currently no cure for Alzheimer's disease, specialized management appears to increase the quality of the patient's life and foster "peace of mind" for the patient's family.^{2,7,8} A positive attitude in health care providers, staff, or family members improves the functional ability of the Alzheimer patient.

Specialized Alzheimer's Disease Unit

These special management techniques have been implemented in a new Alzheimer's disease unit at Knoxville Health Care Center, which is a 180-bed, four story, "traditional" nursing home. The Alzheimer's disease unit consists of a 26-bed wing on the second floor. Twelve rooms are double occupancy and two rooms are single occupancy.

The specialized unit's staff received an intensive 40-hour training program in the etiology and pathology of Alzheimer's disease and management of the patient. The importance of patience, the calm, reassuring approach, flexibility of patient schedules, and continuity of care were emphasized.

Restraining an Alzheimer patient leads to increased frustration and agitation. When physical restraints are minimized and the patient is allowed to move about, agitation usually decreases.

Special measures were taken in the Alzheimer's disease unit to increase patient safety and security. Doors isolating the unit from the other sections of the nursing home allow the patients freedom of movement within the secure unit.

Patient rooms were simply furnished by the nursing home, and family members were encouraged to personalize them with familiar articles from the patient's home. Family pictures, a favorite chair or bedspread contribute to a more familiar and secure atmosphere.² All of the families complied with our request and seemed to enjoy participating.

From the Health and Creative Aging Clinic, Knoxville. Reprint requests to 708 Blount Professional Bldg., Knoxville, TN 37920 (Dr. Greene).

ALZHEIMER'S DISEASE/Greene

Alzheimer patients on the unit were usually more content with a roommate; all of the six patients followed in this report resided in two-patient rooms. Bonding relationships with roommates and other Alzheimer patients in the specialized unit seemed to be a stabilizing influence, providing a beneficial cohesiveness and adding a sense of belonging and unity to their emotional security. Soft, familiar, background music was provided, and a special area was designated for sharing meals; the patients were encouraged to help in setting the table. A dayroom provided a television and material for simple activities, such as cards, picture books, crayons, and paper. These daily activities together fostered a community spirit and gave the patients a sense of responsibility, cooperation, and belonging.

Specialized care plans were used to incorporate a patient's interests and lifestyle into a daily care routine. For example, a former accountant had pencils and paper for "doing calculations," a former nurse walked with the supervisor on daily rounds, a former engineer used building blocks or erector sets.

Medications were kept to a minimum. Antidepressants such as doxepin (Sinequan) and nortriptyline (Pamelor) were prescribed for patients exhibiting depression. Major tranquilizers such as thiothixene (Navane) and haloperidol (Haldol) were used for patients who needed medication for severe agitation and/or hallucinations. These two major tranquilizers have little anticholinergic effect and are most useful in patients who are agitated or psychotic from organic causes such as Alzheimer's disease.⁹

Results

There were 12 original patients on the specialized unit, all with physician's diagnosis of Alzheimer's disease; for six, behavior characteristics had been previously documented. Table 1 shows the percentage of observed behavior of these six patients in the pre- and post-evaluation periods, the latter after four months for five patients and one month for one patient. Ten behavior patterns were used for evaluation. Before evaluation, an average of 43% of the patients had negative behavior (range 16-67%), whereas, afterward only 3% of patients (range 0-16%) had negative behavior, a significant decrease.

Three of the six patients had a complete dementia study before living on the unit; this in-

cluded CT head scan, electroencephalogram (EEG), chest x-ray, B_{12} and folate levels, thyroid profile, complete blood chemistry (SMAC), complete blood count (CBC), serology (RPR), and urinalysis. In addition, psychological evaluations utilizing the Short Psychiatric Evaluation Schedule (SPES) and the Short Portable Mental Status Questionnaire (SPMSQ) were administered.

The SPES is a tool used to help determine the presence of psychiatric symptoms related to depression; it was developed by choosing the most predictive items from the Minnesota Multiphasic Personality Inventory (MMPI). The SPMSQ, a scale developed by Dr. Eric Pfeiffer, provides a reliable method of measuring cognitive skills.

These three patients also had pre-admission assessments to gather information regarding family history of dementia, description of the patient's mental decline, time length of the decline, and a history of the general health status and functional ability of the patient. A complete medication history was also obtained. In this manner, other causes for their dementia were excluded to reach a diagnosis of probable Alzheimer's disease.

After living on the unit for four months (two patients) and one month (one patient), the three patients were retested using the SPES and SPMSQ. Fig. 1 shows the percentage of their cognitive errors on the pre- and post-evaluation SPMSQ test. Patients 2 and 3 had 100% errors on the pre-test and 80% errors on the post-test. Patient 1 had 50% errors on the pre-test and 60%

TABLE 1

PERCENT OF OBSERVED BEHAVIOR OF SIX PATIENTS
ON PRE-EVALUATION AND POST-EVALUATION

Observation	Pre-Evaluation	Post-Evaluation
Hostile	67	16
Agitated	33	0
Decreased appetite	50	0
Did not feed self	67	0
Combative	50	0
Non-ambulatory	67	16
Incontinent	33	0
Could not dress self	33	0
Withdrawn	16	0
Hallucinations	16	0
Mean =	43	3
Median =	42	0
Range =	16-67	0-16

on the post-test. Thus, patients 2 and 3 showed a 20% improvement in cognitive skills, and patient 1 showed a 10% decline.

Fig. 2 shows the percentage of negative affective responses of the same three patients. Patients 1 and 2 both showed a 20% improvement in affective behavior; patient 3 was unable to complete the pre-test due to severe confusion, but was able to complete the post-test. All three patients appeared to show marked affective improvement.

One of the most significant areas almost devoid of help from health care providers is regular education and positive attitude enhancement for family members of Alzheimer's disease patients. Therefore, family members of patients on the specialized unit were strongly encouraged to become involved in support groups. Regular meetings were scheduled on the premises of the nursing home, and most family members complied

eagerly.

We believe the results seen thus far are indicative of the success that can be achieved with positive attitudinal approaches.

Summary and Conclusions

A specialized management program implemented in an Alzheimer's disease unit included staff training for health care providers in the unit to educate and develop a positive attitude; modification of the physical environment of the 12 patients to foster security, familiarity, independence, belonging, responsibility, and community spirit; and minimization of pharmacotherapy to make the patients more alert and therefore more able to take advantage of the changes in their environment.

Six patients showed marked improvement in behavior; two of three patients showed improvement in cognitive skills, and all three showed af-

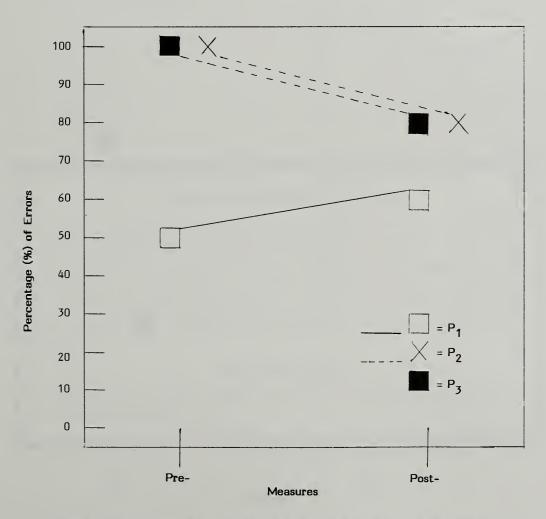


Figure 1. Percent of cognitive errors of three Alzheimer patients on pre- and post-test measures.

ALZHEIMER'S DISEASE/Greene

fective improvement.

In conclusion, the specialized management techniques described above improved the quality of life of six Alzheimer patients.

Future Plans

In the future, we will endeavor to make our diagnosis of Alzheimer's disease as conclusive as possible before a patient is admitted to the specialized management unit. The Knoxville Health Care Center's Alzheimer's disease unit application admission criteria will be used for insuring complete dementia workups. These criteria include a diagnostic testing screen consisting of CBC, complete SMAC, thyroid profile, vitamin B₁₂ and folic acid levels, RPR, chest x-ray, urinalysis, CT head scan and an optional EEG, ¹² description of the clinical course of the illness,

health status questionnaire, health history, functional abilities review, a complete medication history, and SPES and SPMSQ. It should be remembered that traditionally even with specific diagnostic criteria, 20% or more of cases with clinical diagnosis of Alzheimer's disease are found at autopsy to have other conditions than Alzheimer's disease¹²; the comprehensive diagnostic workup required to complete the Knoxville Health Care Center's screening protocol, however, utilizes state-of-the-art assessment strategies that we expect to yield a diagnostic accuracy greater than 80%.

A significant asset to the unit's program is the availability of the Alzheimer's Disease and Related Disorders Association-University of Tennessee Autopsy Program, which can confirm our expectations that the protocol can increase diagnostic accuracy. The autopsy program accepts the protocol as sufficient to qualify participating patients for the program at death. Family members

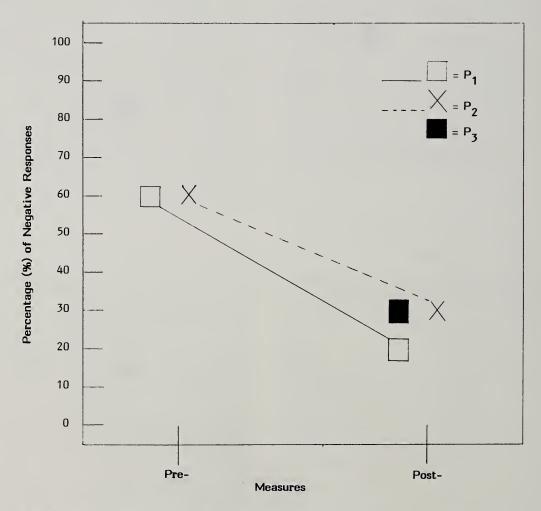


Figure 2. Percent of negative affective responses of three Alzheimer patients on pre- and post-test measures.

will be tactfully educated about this program and about the enormous importance of an autopsy.

We will continue our program of staff training through continuous inservice supervision, and through classes for new personnel. We will revise the program with new management techniques that we observe to be effective. We will continue periodic assessment of patients' affective and cognitive skills every four to six weeks and will have follow-up bolstering therapy for family members at the same intervals.

The special management unit will be modified with new decor to determine whether or not color schemes, furniture texture, and other sensory stimulation make any difference in behavior.

We intend to have a full-time activities director to provide further stimulation via activities, dance therapy, art therapy, pet therapy, and outdoor activities, all of which we believe can only improve the quality of life for these patients and their families.

In time, successful treatment or prevention of Alzheimer's disease will undoubtedly be discov-

ered. In the meantime, the encouraging news is that we are increasing our ability to improve these patients' quality of life.¹³

REFERENCES

- 1. Marsden CD, Harrison MJG: Outcome of investigations of patients with presentle dementia. *Br Med J* 2:249-259, 1972.
- Wells CE, Duncan GW: Neurology for Psychiatrists. Philadelphia, FA Davis Co. 1980, pp 210-212.
 - 3. Wells CE: Pseudodementia. Am J Psychiatr 136:7, 1979.
- 4. Kay DWK. Bergman K: Epidemiology of mental disorders among the aged in the community, in Birren JE. Sloane BR (eds): *Handbook of Mental Health and Aging*. Englewood Cliffs. NJ, Prentice-Hall, 1980, pp 34-56.
- 5. Greene JA, O'Brien M, Johnson W, et al: Management of Alzheimer's disease. *J Tenn Med Assoc* 78:16-23, 1985.
- Cohen GD: Nihilism must be avoided in Alzheimer's. Clinical Psychiatry News, June 1985.
 - 7. Wells CE (ed): Dementia, ed 2. Philadelphia, FA Davis Co. 1977.
- 8. Crook T, Cohen G (eds): Physicians Handbook on Psychotherapeutic Drug Use in the Aged. Connecticut. Mark Powley Assoc. 1981.
- 9. Greene JA: Psychotropic drug use in older people: a review. J Tenn Med Assoc 78:431-435, 1985.
- 10. Burton B, Caril RE, Keller D, et al: Functional Assessment Inventory Training Manual. Tampa, Fla. Suncoast Gerontology Center, University of South Florida, 1983.
- 11. Burton B. Caril RE, Keller D. et al: Geriatric Assessment Testing and Evaluation System Training Manual. Tampa, Fla, Suncoast Gerontology Center. University of South Florida, 1983.
- 12. McKhann G. Drachmen D. Folstein M, et al: Clinical diagnosis of Alzheirer's disease: report of the NINCDS-ADRDA work group under the auspices of Department of Health and Human Services Task Force on Alzheimer's Disease. Neurology 34:939,943, 1984.
- Mace NL, Rabins PV: The 36-Hour Day, New York, Warner Books, Inc. 1981.

Help for Impaired Physicians

Through its Committee on Impaired Physicians, TMA helps doctors who are suffering from alcoholism and drug addiction. The thrust of the program is rehabilitative, not punitive. The Committee is composed of physicians who have special expertise in these areas, some from personal experience. Effective treatment for these illnesses is achieved most easily when the disease is detected early and family, friends, and associates are urged to avoid misguided sympathy which enables the condition to deteriorate.

HELP US TO HELP

Call the TMA Impaired Physician Program (615) 327-2711; outside Nashville call collect. Phone service available around the clock.

JOIN THE GROUP

This Group Insurance
Plan is Designed
Specifically for the
Needs of Physicians
and Their Employees
at Better than
Competitive Rates.

IT PAYS TO BELONG.

How it Works The Benefits

DEDUCTIBLE

4 Deductible Options:

- •\$100.00 •\$500.00
- •\$250.00 •\$1,000.00

PLAN PAYS 80%

of the first \$5,000 of Eligible Expenses in a Calendar Year

MEMBER PAYS 20%

PLAN THEN PAYS 100%

of Eligible Expenses for the remainder of the Calendar Year up to a maximum of

\$1,000,000

- Special Out-Patient Surgical Benefit:
- Special Out-Patient Accidental Injury Benefit:
- Special Out-Patient Pre-Admission Testing Benefit:
- Special Maternity Benefit:
- Special Mental and Nervous/Alcohol and Drug Abuse Benefit

ADMINISTERED BY:



Insurance Planning and Service Company 822 McCallie Avenue P.O. Box 1109 Chattanooga, TN 37401

Call Toll-Free (TN Residents)
1-800-572-7389

Non-Tennessee residents 0-615-756-2850 (Call Collect)

The Official TMA \$1,000,000 Medical Insurance Plan.



Underwritten by
Blue Cross/Blue Shield of Memphs

"For a total computer system package, our medical practice recommends Reynolds+Reynolds."

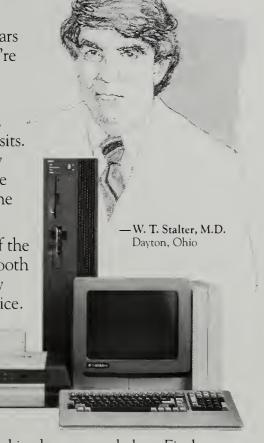
"We'd been researching computers for over two years ... even attending office automation seminars. We're absolutely delighted with our Medical Practice Mangement System from Reynolds and Reynolds.

"The system has eliminated our insurance backlog. Now we can file claims the same day the patient visits. The credit and collection tools improve day-to-day collections and give us strong follow-up for past-due accounts. Staff productivity has increased across the board, allowing for optimal patient care.

"The dedication, excellence and professionalism of the Reynolds' training and support staff made for a smooth transition when the practice converted. They truly understand the needs of today's busy medical practice.

And it's especially comforting to have our investment protected by a company that is national in scope and local in commitment."

*Registered trademark of NCR Corporation.



For a free analysis of your medical practice, just send in the coupon below. Find out what Reynolds and Reynolds' family of single and multi-user Medical Practice Management Systems can do for you.

Computer Consulting 2000 Commerce Union Towers Chattanooga, Tennessee 37450 Telephone: (615) 755-6904	an authorized agent for Reynolds+Reynolds® is a registered trademark of The Reynolds and Reynolds Company.				
Please contact me to arrange Please send me more inform IBM PC AT single workstatio NCR Tower multi-user works	ation about your: on Medical Practice M	lanagement System.	ı.		
PHYSICIAN:	PRACTICE	NAME:			
NO. OF PHYSICIANS: SPEC	IALTY:	OFFICE MANAGER:			
ADDRESS:	CITY:	STATE:	ZIP:		
TELEPHONE:	BEST TIME TO CAI	J:			

We're Hardware. We're Software. We're Everywhere.

© Copyright 1985 The Reynolds and Reynolds Company. All rights reserved.

Weathering the Storm

HARRISON L. ROGERS, JR., M.D. President—American Medical Association

Almost every time I have a conversation with other doctors, whether at lunch, in a hospital lounge, or a locker room, and almost every time I attend a meeting of doctors at the community, county, state or national level and, in fact, almost every time I read anything written for or by doctors on socioeconomic subjects, I am reminded of a line from that great old song, "Stormy Weather." It comes right after the chorus and it says, "Life is bare . . . gloom and misery everywhere!"

Entirely too much of the time, our profession appears to be filled with gloom and misery—almost everywhere. Let me give you just one example of that feeling. You can find it in every medical magazine, in most journals, day after day in the newspapers, in all of the general interest magazines, and on television. I found my example in the bulletin of the American College of Surgeons, which carried an article in April by Eli Ginzberg. He is one of the most respected health economists in the country. In his article, he listed ten forces that he says are moving to take control of the medical and health care field away from physicians. You see, Ginzberg believes physicians were given control of medical care generations ago. Now, however, because of the economics of care, the power, he says, appears to be flowing to others.

The four most important of those "others" are the federal government, with its rules and regulations and laws and DRGs and cutbacks in Medicare and Medicaid payment levels; business and industry, with their new restrictions on coverage, their encouragement of HMOs, their development of PPOs and so forth; insurance com-

Presented as the Inaugural Address at the Annual Meeting of the American Medical Association, Chicago, June 19, 1985.

panies, with their more limited programs, their HMOs and PPOs, their pre-admission approval routines; and other organized consumer groups, such as the 16-million-member AARP, which have a great deal to say about the kind of care their members get, how they get it and the circumstances of its delivery, availability and cost. The other six are state government, the hospital system, the legal system, for-profit medical and hospital groups, the national political arena other than formal government, and the continuing influx of foreign medical graduates, regardless of their citizenship. Those are the forces, according to Dr. Ginzberg, that are trying to wrest control of medical and health care from physicians.

Regarding their efforts, if this were a less distinguished occasion, I would say "nonsense." Because of the formality of this evening, however, I shall limit myself to saying that the analysis is in serious error. All of those groups, and all of the individuals that are part of them, do have great influence and importance. But there is one thing they don't have: They aren't physicians. We are.

Orson Welles, of all people, has a record out now, in which he more or less sings to a group of youngsters. The main line of the song is, "I know what it is to be young . . . but you don't know what it is to be old." We are in exactly that position. Because of our many experiences, we know how it is to be involved in politics. We know how it is to be involved in business. But the politicians and business leaders and organization presidents don't know how it is to be physicians. It is because of our professionalism, our skills, our efforts, our dedication, and yes, our sacrifices that medical care is what it is today. We are the ones who deliver care to all of the people of this country. We are the ones who have seen that the indigent have been cared for—even with reduced state and federal programs. We are

the ones who have seen that the unemployed and uninsured have received the care they need, with or without payment to us.

We are called greedy—and a lot of other names. But consider some differences. If people owe money to the federal government, how often does the IRS say, "Forget it. We know you can't afford to pay." Doctors do it every day. If someone owes a corporation for its products, how often does the controller tell them, "Don't worry about it. Pay a little now and then as you can, or we'll write it off." Doctors do it every day. What kind of greed is that?

A lot of people might think they ought to be in charge of medical and health care. But when members of the House or Senate get sick, they don't call for their staff aide on health matters. They don't call the Secretary of HHS. They call their doctor. When corporate chief executive officers are sick, they don't call their benefits director or their human resources vice president or financial officer. They go see their doctor. And that's the way it's going to stay if we do everything we need to do.

It is, in effect, a contest of leaderships. Whoever has the best will prevail. We can continue to control our own destiny and, in the process, preserve and improve the quality of care this nation depends on. We can do it, that is, if we see all of the situations and problems—not as gloom and misery—but as challenges and opportunities. They are not a call for despair. They are a call for what I see as the three A's of our future: Awareness, Alertness, and Action. And those three are a clear call for leadership.

We need to take strong stands to face the issues that are before us. Not self-serving—but strong. We must be aware of all of the problems that exist, the changes that are taking place and of their magnitude in areas legal, regulatory, economic, scientific, educational and technological. We must be alert to the options that are available to face all of them, to the alternatives that are available in our practices, and to the effects all of those things can have on our profession and on our patients. We must take action to find workable solutions and to mobilize and motivate the troops—our constituents—to carry them out.

But that brings up a major question. Where is the leadership that can do all of that? We talk a great deal about leadership of the medical profession, leadership of the medical and health care field. But we usually talk about it as if it were some amorphous, disembodied power that comes from an unidentified source. Let's get specific. Who are the leaders of American medicine? It isn't enough to say we need leadership. We must identify it, support it and make it work. To me, the identification is clear.

As honored as I am with the position to which you have elected me, the leadership of the American Medical Association, and of the medical profession in this country, does not reside in the President of this Association or of any other. It also does not reside in the the Board of Trustees. But it is in this room. It is the 370 delegates to the House of Medicine, the House of Delegates of this, our Association. It is you who devise the policies that guide us. It is you who look to the future, and decide where we have to go. You have earned that responsibility. You have been active in your own communities from coast to coast. You have been leaders of the profession in your own communities, states, societies and specialties. You have, with impeccable honesty and integrity, worked in the trenches of medicine. You have been the strong advocates for education, for research, for patient care. And now you sit in this House, assuming the same obligations and responsibilities for the nation as a whole and the profession as a whole.

The thing that makes this House work as the leadership of medicine is that you bring to your deliberations not only your own accumulated years of medical experience and knowledge, but the views of your constituents. They chose you to represent them because they respect you and trust you knowing that your dedication is to them and to the people they are striving to serve. You hear their views while you are home, and you also hear them at these meetings in reference committees. You represent almost an ideal of democracy in this House of Delegates. Those you have chosen at this meeting as officers or Board members were given the privilege not of leading by themselves but of serving you by implementing your programs and by providing to you the kind of information, philosophy, and research data you need to make your decisions.

I see my own responsibilities clearly. I was not chosen to lead our profession or this House. I was elected to represent you and your policies to every possible element of society. To the public. To physicians in their many organizations. To

others in the health care field. To government. And equally important, to residents and medical students, young people preparing themselves not only to become members of our profession, but preparing themselves to take our places tomorrow . . . in these seats and at this lectern. They are the ones who will be most affected in the years to come by what you do here during this meeting and in future meetings. And they are the ones who must be shown the wisdom and the down-to-earth practicality of your policies and programs and urged to take their places not only in the practice of medicine but in the leadership of medicine by working within the profession within the AMA.

Representing you is easy. I have done it for the past year as President-Elect, and have traveled 150,000 miles in just the last six months doing it. It is a pleasure as well as a privilege to represent American medicine because of the excellent job you and all of our colleagues have done. We have developed the gold standard of the world in medical and health care. Our challenge is to maintain that standard in the face of all of the changes that are taking place. It can be done, but our leadership-you-must face the issues squarely and make decisions fearlessly. Decisions not based on selfish interest or narrow interests but based solely on what is best for our patients and for our profession, regardless of their difficulty or even their unpopularity in some circles. Because no decision was ever made that didn't go against somebody's grain. But they still must be made—for the benefit of all.

I could spend the rest of this night listing issues we must face, but I want to limit myself to only a few that I personally believe are most important. One is unification of our profession through increased membership in and support of the AMA. Over the years, we have been known principally as the Association of fee-for-service practicing physicians. It is imperative that we make this Association appeal as well to employed physicians, more and more of whom are existing and on the horizon, and to those who are in research or academia. When we speak to the public or to government, our voice will be heard much more clearly when we truly represent a majority of all physicians, regardless of their individual primary interests. It is as imperative to them as it is to us, because whatever affects medicine affects every physician in it, no matter what role he or she plays in it. We know

that. We have to make it clear to every physician.

A second area is medical education. Some choices have to be made. Are we concerned and is it time for us to speak out about physician manpower? Our policy has been—and is—that the marketplace should and, in fact, will determine the number of physicians in practice, in teaching, in research, and in all other medical areas. I don't question the logic or reasonableness of that policy. But I believe it is necessary for us to look at it in light of everything that is happening. We have to decide whether that policy is still valid in view of the increasing numbers of our colleagues and the effects of increasing competition among them, and between them and other areas of the health care field on the care we deliver. We must remember that if the time comes that a change appears necessary, the number of years between entrance into medical school and going into practice requires that any decision that is made be made a long time before results are expected. There have been proposals that medical school enrollment be reduced-voluntarily, by all means—but reduced. We have to decide whether that is a movement we want to support. If so, we also have to find ways to maintain a balance between graduates of schools here. whose excellence we know, and graduates of other schools outside of our country who continue to add their numbers to our physician population. Is now the time for us to begin searching for legislation addressing this issue? Also in connection with education, our policy has been that it is not necessary to have every residency program tied directly to a university. I wonder if it's time for us to reevaluate that stand to assure continuing excellence in all graduate training.

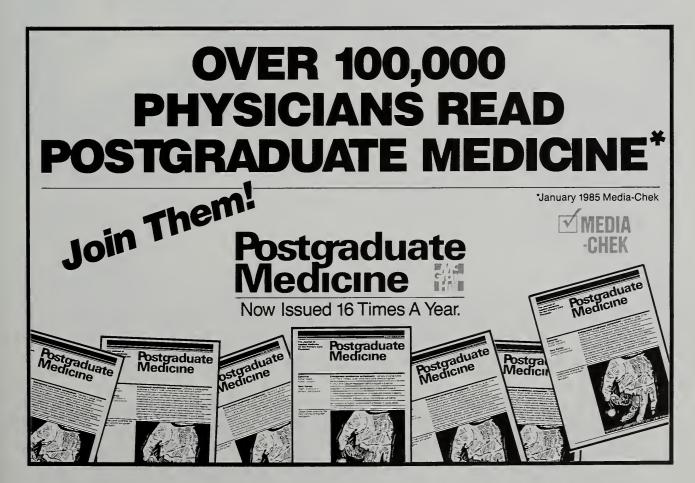
A third and closely related concern is whether we need a stronger or clearer policy regarding the rapidly increasing movement toward corporate ownership not only of medical facilities and hospitals in general, but of teaching hospitals—major, tertiary care, and graduate educational centers. Who is going to make sure that the corporate teaching hospital is going to continue the excellence of education and patient care that have been traditional in them? That, of course, is a huge part of the entire growth of what is now known as vertical integration wherein one owner, perhaps representing thousands of stockholders who expect their return every year, offers

medical care delivery, administration, hospital care, freestanding medical centers, supply and equipment manufacture, nursing homes, rehabilitation hospitals, and the insurance programs to cover all of it. What we used to call the "corporate practice of medicine" involved small, isolated instances. Today, corporate ownership of facilities and corporate employment of professionals appears to be the single largest movement in our field, and the one with the greatest potential for change. Are we sure where it is leading from the standpoint of patients and patient care? Do we have a clear policy that tells the people of this country what their physicians think about the movement, and the kind of results they can expect from it?

Fourth and final is the question of our image as a profession among our own patients. If we fail to find the right answer to this one, we won't have to worry about any of the others. We know, and many other people know, that we are good doctors and that we have a good medical care system. But many people are hearing other things. They are questioning our excellence and even our dedication, in some instances. The public's perception of us is slipping, particularly with

respect to the cost of our service and whether we are more concerned with money or with taking care of them. That has to be corrected and can only be corrected by establishing with every patient a relationship based on honesty, compassion, concern, and good medical care. If we make sure that our own interests are secondary when we're faced with a patient's problem and do right by our own patients, then our image will prosper. Otherwise, I don't believe we can spend enough money to buy a good one. Everything that is being proposed in the program being presented to you at this meeting is good and valuable, but nothing can take the place of selfless, devoted, dedicated patient care. That is the basis of our image just as it is the basis of care itself.

There is no end to the list of other challenges, opportunities and situations I could list that need the attention of medicine's leadership. Indeed, every resolution and every report you are considering is worthy of inclusion. But I chose the four that I think are most vital—vital to our relationships with patients, and vital to our ability to represent medicine and patients before the many forums in which we appear, not the least of which are the committees of Congress.



SEPTEMBER, 1985 569

For Cancer Consultation, Call a Specialist. MIST.



The University of Alabama Medical Center

Splenic Salvage

JEANNE SCANLAND, M.D. and R. PHILLIP BURNS, M.D.

Introduction

The importance of splenic salvage is generally recognized by a majority of physicians. Occasionally, there are injuries that require splenectomy because of the circumstances of the injury or the extent of injury to the spleen. Changing attitudes toward splenic function and newly developed surgical techniques have significantly reduced the number of patients subjected to splenectomy for trauma.

For centuries, the belief that the spleen was not essential to life went unchallenged. This belief can be dated in Aristotle's time, but in 1919, Morris and Bullock concluded that splenectomy increased susceptibility to infection.^{1,2} Until 1970, when the first adult septic death was reported after splenectomy for trauma, post-splenectomy sepsis was thought to occur only in cases where splenectomy had been performed for hemato-oncological diseases. Since then, other cases have been reported.² Initial reluctance to accept splenic salvage has existed because of low splenectomy mortality, unproven safety of salvage procedures, a belief that the spleen was unsuturable, fear of delayed splenic hemorrhage, and presumption or hope that accessory spleens and splenosis would assume parent splenic function.

The following case report describes an effective salvage technique utilizing the combination of sutures and the topical hemostatic agent, Surgicel Absorbable Hemostat.

Case Report

A 15-year-old white boy was brought to T.C. Thompson Children's Hospital after sustaining injuries in a motorcycle accident. He had stable vital signs, abrasions to the left lower anterior chest with rib fractures, left radial and ulnar fractures, and generalized left upper abdominal tenderness. Initial laboratory results revealed a hematocrit of 37.4%, white blood cell count of 15,600/cu mm and gross hematuria. IVP showed evidence of left renal contusion. Approximately 30 minutes after admission he complained of increased left upper quadrant pain and tenderness, and repeat hematocrit

From the Department of Surgery, Chattanooga Unit, University of Tennessee College of Medicine.

showed a decrease to 32%. Peritoneal lavage was completed and was grossly positive. Exploratory laparotomy disclosed approximately 1,000 cc of blood observed in the peritoneal cavity, and two large segments of totally avulsed splenic tissue in the left upper quadrant with a small segment (approximately 20%) of viable splenic tissue connected to the splenic hilum. The splenic capsule was totally avulsed. The viable splenic tissue was mobilized into the operative field, and a double thickness segment of Surgicel wrapped around the bleeding splenic pulp and sutured tightly with absorbable material. Postoperatively the patient progressed well, without evidence of splenic function loss on peripheral blood smear, and was discharged on the ninth postoperative day. Followup splenic scan seven weeks post-injury showed splenic activity in the remnant, and he has shown no unusual infection during the seven months post-injury.

Discussion

The first recorded splenectomy for disease was performed in 1549 by Zaccarelli. 1.2 In 1590 Viard reported the first successful partial splenectomy for trauma, and in 1678 Matthias performed the first total splenectomy for trauma. There was little enthusiasm for any procedure less than complete splenectomy for splenic injuries until the late 1960s, but since the recognition of post-splenectomy sepsis as a potentially critical problem, greater interest in splenic salvage has emerged, more than 200 cases having been reported since 1970. It is believed that these represent only a small fraction of the traumatized spleens that have been salvaged in the past decade.

We believe that splenic salvage or nonoperative management should be performed when possible, especially in children. Good results with nonoperative treatment, which relies on in-hospital observation based on clinical course, has been reported by the Hospital for Sick Children, Toronto, and by Boles and Associates at Columbus Children's Hospital.^{3,4} The decision for nonoperative treatment is based on reasonable assurance of no significant associated intraabdominal injuries, and a stable clinical course requiring blood transfusions of no more than 30 ml/kg.^{3,4} If there is any question of other intraabdominal injuries or about the stability of the patient, exploratory laparotomy should be performed. A reasonable attempt at splenic salvage

SEPTEMBER, 1985 573

should be performed at operation if splenic injury is encountered. Occasionally, splenectomy without attempted salvage is indicated in circumstances such as unstable patients with multiple serious injuries, complete parenchymal destruction of the spleen, total splenic avulsion, or when splenorrhaphy would greatly increase operative time.⁴

Pachter et al⁴ studied 105 patients with splenic injury, and concluded that approximately 85% of iatrogenic and traumatic injuries can be salvaged in adults. Some surgeons are reluctant to use salvage techniques because they fear postoperative rebleeding, but data supporting this is meager. Post-splenorrhaphy hemorrhage has been reported in one case by VanStiegmann and two cases by Lawrence.^{3,4} These cases are few in comparison to the number of successful splenic salvages reported.

Essential to successful splenorrhaphy is adequate splenic mobilization, ligation of obvious major bleeding vessels, and debridement of nonviable splenic tissue. Many splenic injuries result in only minor vascular injury and can be managed with application of topical agents such as Avitene, thrombin or Gelfoam.³ In their review of current splenic salvage techniques, Pachter et al⁵ indicate topical treatment is more often used in adult splenic salvage, while suture repair is more frequent in children. This attitude characterizes experience in our institution involving splenorrhaphy in both children and adults.

In 1930, Dretzka used vertical mattress with chronic catgut to repair a splenic laceration. 1,2,4 To this technique, Mazel added simple fine continuous chromic catgut suturing to the capsule in 1932.^{1,2,4} Hemostatic adhesive was applied to a raw surface in 1962 by Morgenstern, who later combined topical agents with simple suture using chromic catgut in 1966. 1,3,4 Segmental resection with horizontal mattress catgut sutures were used by Christa in 1965.1 In 1977, Boles used vicryl sutures over teflon pledgets and Leonard wrapped the spleen with omentum, which was encircled by chromic sutures, along with ligation of the splenic artery. Sherman and Asch described two partial splenectomies in 1978 using techniques combining suture ligation and topical hemostatic adhesive with mattress sutures. In 1979, Lynn used through-and-through Dexon mattress sutures passed through the spleen perpendicular to an injury with a No. 20 spinal needle which is touched with electrocautery. Also in 1979, Buntain used a suture ladder made of absorbable suture to encircle the spleen. In 1984, surgeons at

Friderich Alexander University, West Germany, reported splenic salvage in 96 of 100 patients with an adhesive made of human fibrinogen plus a preparation with thrombin, calcium and factor XIII, along with an antifibrinolytic agent injected into the injured area.⁵ In our method, the viable splenic tissue was wrapped closely with a double layer of Surgicel sutured together using 3-0 vicryl forming a tight envelope around the spleen (Fig. 1). The Surgicel formed a gelatinous mass against the raw splenic surfaces with resultant cessation of bleeding.

We do not know whether the procedure done in our patient will protect from increased susceptibility to infection or sepsis, because the amount of splenic mass needed for sepsis protection is unknown, but Goldthorn et al² state 25% is sufficient, while Blaisdell² reports 30 to 60 gm of spleen to be adequate, with lesser amounts required for children. 1.3 Leonard 4 is convinced that salvage of at least 50% of the spleen is necessary to preserve splenic function. Perhaps longitudinal studies will confirm the advantages of splenic salvage, including prevention of lifelong increased susceptibility to infection, even in cases where small remnants of splenic tissue are preserved as in our presently described case. Better tests are needed to assess immunologic competence to clarify the risks of susceptibility to infectious complications. It is hazardous to rely on the possibility of accessory spleens, which are found only in 20% of the population, and pneumovaccine protects only against the majority of pneumococcal strains and does not protect against other bacteria that may cause sepsis.1,2 Some researchers have found that splenosis and autotransplantation, performed by placing devascularized tissue into subcutaneous pockets, do not protect against pneumococcal challenge.4 We therefore believe that whenever possible a splenic salvage procedure should be attempted. The key to splenic salvage is complete mobilization and a surgical conviction that as much tissue as possible must be saved because the exact amount of splenic tissue required for immunocompetence is not known.

REFERENCES

^{1.} Buntain W, Lynn H: Splenorrhaphy: changing concepts for the traumatized spleen. *Surgery* 86:748-760, 1979.

^{2.} Sherman R: Perspectives in management of trauma to the spleen; 1979 Presidential Address, American Association for the Surgery of Trauma. *J Trauma* 20:1-13, 1980.

^{20:1-13, 1980.3.} Giuliano A, Lim R: Is splenic salvage safe in the traumatized patient?Arch Surg 116:651-656, 1981.

Pachter L, Hofstetter S, Spencer F: Evolving concepts in splenic surgery. Ann Surg 194:262-269, 1981.

Novel materials used for splenic repair. Surgical Practice News, Georgetown, Conn, McMahon Publishing Co, vol 5, Aug 1984, pp 1 and 7.

Warning Signs Unheeded

J. KELLEY AVERY, M.D.

Case Report

A 25-year-old mother of a 3-month-old infant was referred to a psychiatrist by her obstetrician with a tentative diagnosis of postpartum depression. The problems that she related to the psychiatrist were extreme nervousness, periodic depression, and a "jittery feeling." She stated that her condition bothered her to the extent that she could not carry out her routine daily chores. She further complained that it was difficult for her to get organized and structure her day so that she could do her cooking and cleaning, and at the same time take care of her baby. Psychotherapy was recommended in lieu of drug therapy because she was still breast-feeding her child. The psychiatrist agreed with the diagnosis of post-partum depression.

After a trial of psychotherapy, the patient decided to stop breast-feeding her child so that she could take the medication prescribed by her psychiatrist as an adjunct to psychotherapy. Even with the medication, however, there was no improvement in her condition, and in fact it worsened. She expressed extreme hopelessness during counseling sessions, manifested by her remark that she was "never going to find her way out."

It was shortly after the institution of tricyclic drug therapy that the patient began to consider suicide as an alternative. Consequently, she was hospitalized for three months, but although some improvement was seen, on the day after her discharge, the patient attempted to take her life, and was immediately readmitted to the psychiatric institution for approximately four months. Treatment consisted of medication adjustment, along with every other day counseling. Toward the end of her hospital stay, the patient began to improve; her outlook was better, and she felt better about herself. She felt as though she was making a recovery.

The patient returned home to her family, but suffered a series of disappointments. After a long awaited family reunion was cancelled due to the sudden death of her uncle, in an effort to mitigate his wife's disappointment, her husband planned a long weekend away for the two of them but this had to be postponed because the baby became ill. Shortly thereafter, the patient began to exhibit signs of depression. and at the urging of her husband she began weekly visits to a clinical psychologist. After several sessions, the psychologist increased the sessions to three times a week, but the patient still failed to show any improvement. The psychologist recommended to the patient that she be readmitted to the psychiatric hospital, and made the arrangements with the patient's psychiatrist, but the patient requested that the admission be delayed a day or two so that arrangements could be made to have her child taken care of. The psychologist and psychiatrist both agreed. During this time the patient again

attempted suicide, and she was again admitted to the psychiatric hospital.

The patient was admitted via telephone orders of the psychiatrist. which did not include suicide precautions, though she was placed on hourly observations. Shortly after midnight on the day of admission the patient was found missing from her room, but the attending psychiatrist was not notified for two hours. While the hospital protocol required the county law enforcement agencies be notified in case of patient elopement, the psychiatrist determined that the patient's actions did not indicate suicidal intentions, so no notification was given. Several hours later the patient was found in the men's locker room of the hospital's gymnasium dead from suicide by hanging.

Loss Prevention Comments

There are at least three glaring errors in management, any one of which, had it been correctly handled, might have prevented this tragic event.

Certainly suicidal precautions should have been ordered on admission, since this patient had been suicidal for many months, having made two suicide attempts. The physician simply overlooked the order for suicide precautions. Perhaps if her physician had attended her personally at the time of admission, rather than admitting her "via telephone orders," the outcome would have been different.

Although hourly observations were ordered, the patient was missing for two hours before her physician was notified. The hospital deviated from an acceptable standard of care in delaying notification of the physician. Case law determines that the hospital and physician were negligent in not notifying county law enforcement agencies, since hospital protocol requires it in a situation of this type.

These last two deviations from acceptable care are typical examples of "system failure." Though a "system" was in place to protect the patient, in one instance it was ignored by the hospital, and in the other, the hospital and doctor together agreed to override it. Successful defense was therefore deemed impossible, and a large settlement was made.

SEPTEMBER, 1985 575

Dr. Avery is medical director of State Volunteer Mutual Insurance Company.

Indoor Air Pollution Health Problems

EARL R. BRAWNER, JR.

Indoor air pollution is not a new phenomenon, but its recognition as a problem has become more pronounced. In recent years the Tennessee Department of Health and Environment has seen an increase in the number of requests from the public for assistance in resolving problems related to the presence of air contaminants inside homes. The increased effects of indoor air pollution can be attributed to several factors, some of which are construction of energy efficient homes, which reduces air exchange between indoor and outdoor environments, increased use of synthetic materials in the construction and furnishing of homes, and everyday use of products derived from various chemicals. All of these factors have led to human exposures of a variety of toxic substances.

Illnesses have been documented by many physicians where an alert homeowner brought to the physician's attention that symptoms or chronic conditions that failed to respond to conventional treatment mysteriously improved upon leaving the dwelling for short periods. These situations frequently give rise to a physician's request for assistance in determining whether measurable levels of the suspected contaminant can be found in the air of the patient's home. In an effort to heighten the current awareness within the medical community of these problems, it might be helpful to list certain indicators considered useful in diagnosing such problems.

- Symptoms in several family members.
- Most severe symptoms in long term occupants.
- Decrease in symptoms upon leaving home or during prolonged absences.
- Symptoms significantly reduced by ventilation.
- Seasonal variation of symptoms related to use of heating or cooling systems.
- Onset of symptoms related to recent change in dwelling, such as moving into a new home, remodeling, or heat conservation activities.
- Symptoms in visitors.

Some of the more common substances that can contribute to indoor air pollution in the home are listed in Table 1.

TABLE 1 COMMON SUBSTANCES CONTRIBUTING TO INDOOR AIR POLLUTION IN THE HOME

Use		
Widely found in construction materials and commercial products used in homes, public buildings, and trailers.		
Used in treating for termites and preventing wood damage by insects.		
Used to prevent wood deterioration by insects and fungi.		
Commonly produced by combustion of natural gas, wood, or kerosene in space heaters and stoves.		

The Department policy on indoor air pollution is to accept requests from a physician in instances where indoor air contaminants are suspected of being the cause of a patient's symptoms. These requests will be handled on a first come first serve basis as time permits. Since limited personnel are available to conduct the investigations, physicians can assist the Department by initial screening of patients who may be suffering from indoor air contaminants.

Further information regarding indoor air pollution may be obtained from the following additional sources.

Tennessee Department of Health and Environment

Air Pollution Control Division, 150 Ninth Ave. North, Nashville, TN 37219-5404; (615) 741-3651

Environmental Epidemiology Division

Old UTN Building, 100 Ninth Ave. North, Nashville, TN 37219-5405; (615) 741-5683

Indoor Air Quality Research Laboratory

Department of Natural Resources, Ball State University, Muncie, IN 47306; (317) 285-1302, 285-7161, Dr. Thad Godish, Ph.D., Director

National Medical Service

2300 Stratford Ave., Willow Grove, PA 19090; (215) 657-4900, Dr. Paul Schweda

Environmental Protection Agency

Physicians Pesticide Toxicity/Exposure Assessment (800) 858-7378 (for physicians/medical consultants only)

From the Tennessee Department of Health and Environment, Nashville.

president's page



CLARENCE R. SANDERS

Child Abuse

There is probably no other area in the practice of medicine more frustrating, more perplexing, or more tragic than that of treating children who have been physically or emotionally abused, or both. The news media report such heinous crimes every day and, while most of us initially react with outrage and dismay, we just as quickly forget as we resume our daily activities. Although I, in my medical practice, rarely come into direct contact with these cases, I know—or perhaps, I hope—that I will never become calloused to the point where I am not immediately saddened, repulsed, and enraged by such crimes. How, or why, anyone can intentionally inflict pain and injury on innocent human beings is a question which has been raised since the beginning of time and, sadly, there is no answer. However, as medical practitioners, we are in the unique position of being able to detect such incidents in the fairly early stages; because of this close proximity, I would urge each of you to make every conceivable effect to prevent recurrences in those cases with which you are familiar.

Our traditional role has been to detect, to diagnose, and to treat such cases; we can and should do much more. As physicians, we can actively participate in the primary prevention of child abuse and neglect as well. There are groups we can join, there are committees we can form, and there are countless strategies we can implement which can help to alleviate some of these atrocities. Get to know the parents or guardians of your young patients; if you detect or suspect abuse, don't let up until the situation has been thoroughly investigated. Even one case, if it could have been prevented, is too many.

I strongly urge all TMA members, as well as all physicians, to join hands with the AMA in taking a substantially more active interest in the issues of child abuse and neglect. No other organization could possibly have a more realistic view of the real scope of this problem and, by the same token, no other organization is in a better position to make a concerted effort to address this serious blight on our society. We can—and, indeed, we should—make a difference.

clarence R Sanders MD

journal of the tennessee medical association

PUBLISHED MONTHLY

DEVOTED TO THE INTERESTS OF THE MEDICAL

PROFESSION OF TENNESSEE

OFFICE OF PUBLICATION: 112 LOUISE AVENUE, NASHVILLE, TN 37203

JOHN B. THOMISON, M.D., EDITOR

ADDISON B. SCOVILLE, JR., M.D., ASSOCIATE EDITOR
JEAN WISHNICK, MANAGING EDITOR

Acceptance for mailing at special rate of postage provided for in Section 1103, Act of October 3, 1917, authorized July 15, 1932.

Copyright for protection against republication Journals of the American Medical Association and of other state medical associations may feel free to quote from this Journal whenever they desire merely giving credit to this publication

Address papers, discussions and scientific matter to John B. Thomison, M.D., Editor, P.O. Box 70, Nashville, TN 37202

Address organizational matters to L. Hadley Williams, Executive Director, 112 Louise Avenue, Nashville, TN 37203

COMMITTEE ON SCIENTIFIC AFFAIRS

OSCAR M. McCALLUM, M.D., Chairman, Henderson SIDNEY L. BICKNELL, M.D., Jackson CLAUDE H. CROCKETT, JR., M.D., Bristol WINSTON P. CAINE, M.D., Chattanooga TED W. HILL, M.D., Gallatin FRANCIS W. GLUCK, JR., M.D., Nashville JOHN B. THOMISON, M.D., Nashville, Ex-Officio

SEPTEMBER, 1985

editorials

And Into the Twenty-First

Back in the fifties, even with a quarter of a million people Nashville was still pretty much a small Southern town, and a lot of its inhabitants were trying desperately to propel it into the twentieth century, while a lot of others were not. One of those individuals who were was heard to

remark that what Nashville needed most was a number of well-attended funerals. In time, as it must eventually to all men, they happened, and now some 30 years later, for better or worse, greater Nashville is a sky-scraped metropolis boasting about three quarters of a million twentieth century denizens, many of whom can't wait to get into the twenty-first. When I was young and impatient, my father would tell me, "Son, don't wish your life away." At this point, what I keep wishing for is brakes—both for my own rush toward eternity, and for that of our city, state, nation, and world toward—what? Eternity? Certainly into the future—but what future?

Please understand that I have no wish to impede progress, and that I understand that the "good ole days" weren't necessarily. I also have come to understand, though, the apprehensions of those whose funerals were once so eagerly anticipated. They were not entirely unfounded.

When I was growing up we had a yard man who in his own youth had gone to Detroit to seek his fortune in the young automobile industry. Instead, he lost an arm at the shoulder in a factory accident. Because he could no longer work, he was simply let go. That he survived was due to his remarkable ability to do more work with his one arm than most men I know could do with two, but that was no thanks to Studebaker (I think that was the company, though it could have been any one of them). In any case, such callous disregard for the automobile workers led to the bloody strikes and riots that were the hallmark of the Detroit of the thirties, and also fathered the labor unions. Consequently, Detroit has always been my idea of no place to go to. Its economy has been on a roller coaster ever since, tied as it is to the fickle public's tastes and infatuations. Detroit was chosen as the center of the automobile industry because of low population density in the area, cheap labor, and access to rail and water transportation. It is, to my way of thinking, ruined beyond recall.

The Blue Grass Region, noted for its fine farms and race horses, is associated generally with Kentucky, but it tails down into Middle Tennessee to end in Maury County around Columbia. It comprises some of the finest farmland anywhere. Go east a little and you find rocky, hilly ground peppered with outcroppings and the scrubby cedar trees that mean poor farming. It makes a lovely countryside, though, one that I never tired of as I made my way back and forth between Nashville and Chattanooga during my

years in Vanderbilt just before World War II. It was a route dotted by quiet Southern towns that have sometimes been referred to as "sleepy." Just coming out of the Great Depression, the entire country was not very prosperous, and the South in particular had not even recovered from the late unpleasantness between the states.

After the boom days engendered by military installations all along the line, the area settled back to a staid existence with marginal subsistence. Because the population density was low, labor cheap, and transportation good, industry, first light, began to move in. An aggressive administration has wooed—and won—automobile manufacturers. Prosperity is coming to Tennessee through industry. Déjà vu?

What will be the cost? Certainly life will not again be the same, but then it would not have been the same in any case. Indulging in nostalgia may be fun, but it does not edify. Depending upon nostalgia to chart the future will certainly prevent change, but at the cost of stifling progress.

It is an old joke that one thing you seldom see is horse droppings in a filling station. Generally you have either one or the other. There is only one place I know that has no filling stations—at least in the United States. Macinac (pronounced Mackinaw) Island in the straits between Lake Michigan and Lake Huron allows only vehicles powered by flesh and bone. It is a restful, quiet, and lovely, if smelly, place. Because it is hard to get to, it is not stuffed with people—except sometimes. I personally find it a heap easier to get used to the odor there than to that of burning petrol consumed at around 50 or more decibels. It is easier on both my earpans and my neurons. It appeals to me.

On the other hand, it appeals to me on Macinac Island (though it would be nice to have a few such scattered islands or oases close to home). If that were the pattern generally, it would wear as thin as it did a hundred years ago when folks regularly died of pneumonia and such things and it took all day to get from Hillsboro into Nashville and back. Cholera epidemics were a constant threat, and typhoid fever common; both were untreatable and commonly fatal. Communication was slow, and frequently nonexistent. And so on.

It does no harm to wish for the best of all possible worlds, or even to work toward it, but not to expect it. It seldom happens that we can have it both ways. It is therefore wise to look in both directions, as when crossing a busy street; we

need for our planners to be individuals who can count the cost as well as the profit. The best reason for not looking back too much is not, as Satchel Paige said, that something might be gaining on you, but that you might walk off a precipice. At the same time, you need to be sure that if something *is* gaining on you it is not going to push you off the edge. The wise will have a firm grasp on a safe anchor in front before turning loose of the one behind.

J.B.T.

On Promising a Rose Garden

Just off the Forum Romanum once stood the House of the Vestals, both now fallen in ruin. What is left is carefully preserved, though, and the House of the Vestals is now home, not inappropriately, for a rose garden, and a lovely one at that. It is just one of innumerable magnificent rose gardens scattered over the countryside and in cities throughout the world. Besides those in gardens, to quote the poet, "full many a rose is born to blush unseen, and waste its fragrance on the desert air." Perhaps he was referring to hedge rows, since though some roses do indeed grow wild (Edward McDowell composed a small piece in honor of one) I doubt that very many roses grow in the actual desert, but maybe they do.

Despite there being countless other gorgeous flowers, there seems to be something very special about roses. Even though some may grow wild, and though poets and composers may have eulogized that sort, that is not what garden fanciers flock to view. Those objects of their affection require tender loving care, which rose lovers joyously confer upon them. Since they are now "in season" (roses, not rose lovers; they—lovers of roses and otherwise—are always in season) I heard a representative of a local florist quote a special price this morning of seventeen-fifty for a dozen red roses, down by half from the going price of thirty-seven fifty. That, friends, is more than three of your hard-earned ones per posie. During the winter, they tell me, one must order ahead or be disappointed. I wouldn't know; I would be more disappointed at paying three bucks a head. Obviously, though, somebody buys them; they are considered by both giver and receiver the ultimate pacifier.

When I quit smoking something over 36 years ago cigarettes were ten cents a pack. I think they

SEPTEMBER, 1985 587

were actually twelve cents, but you could buy a carton for a dollar. Now a pack costs more than that. That means that since few smokers smoke less than a pack a day, most of them spend at least four or five hundred dollars a year on cigarettes and some twice that, or more. A hardened smoker some years back—he was a doctor, no less, and a pathologist, at that—observed that if it were not for cigarettes he wouldn't be able to cough up all the mucus that formed in his bronchi, and he would choke to death. Viewed that way, I suppose one could consider cigarettes a medical expense and add all those billions of dollars to the cost of health care. (It would make about as much sense as some of the other statistics. But I digress.)

Statistics from the National Council of Churches just released indicate a level of giving of just under \$300 per capita in the church at large, with a spread between around \$500 in the Church of the Nazarene to a little over \$200 in the larger, "mainline" denominations. The Bible teaches tithing, but the per capita giving would seem to be something less than 10% of per capita income, even after taxes. Of course, in the old days the church was also the sole charitable institution around, and in Israel it was the government too, whereas now there are all sorts of hands struggling to get into one's pocket. Nevertheless, churches still urge tithing—naturally. In looking over the list of which denominations give what, I should judge that those with lower per capita incomes give more. One might think they would not buy many roses, but industry figures indicate that is not necessarily the case.

There is always more than one way of looking at statistics. I found these figures, all taken from a single issue of the daily newspaper, interesting, and simply throw them out for your mystification. One could infer that churchgoers find cigarettes and roses more appealing than God, but to do so one would have to know whether the churchgoer does in fact smoke cigarettes and buy roses. Likely some do and some don't. One needs also to be careful in equating churchgoers with church members, since on a given Sunday attendance varies from a high of around 50% for Roman Catholics to something in the neighborhood of 20% for Methodists, Episcopalians, and Presbyterians. Further, one would have to know the extent to which the individual church member equates commitment to the church with commitment to and love for God. A significant fraction of those that find God appealing also find

the established church (to be distinguished from The Church) appalling. Considering the above, not to mention other imponderables you and I might think of, I wouldn't touch that one with a ten foot pole.

Nevertheless, when the per capita expenditure for alcohol and tobacco exceeds (considerably) that for the church (even including all religious sects, and certainly excluding the outlay for illicit drugs, which is horrendous—and mostly unknown and likely underestimated), when society can live cheerfully with 17% of its gross national product going for entertainment but complain bitterly about 10% for their health care, and when practically everybody else you can think of earns more than those to whom we entrust our children's future and their and our safety (teachers, firemen and policemen), I'd say our society ought to rethink its priorities.

I was about to say society ought to *reorder* its priorities, but I hold little hope that it will even consider them, let alone do anything about it. Depending upon your vantage point, life may be a bowl of cherries or not, but I think it safe to say it is no bed of roses—more's the pity.

J.B.T.



William Stanley Barham, age 97. Died July 2, 1985. Graduate of General Medical College, Chicago. Member of Rutherford County/Stones River Academy of Medicine.

perronal news

The President of the United States has nominated Major General Murphy A. Chesney as surgeon general of the United States Air Force and for promotion to lieutenant general, effective Aug. 1, 1985. He succeeds Lieutenant General Max B. Bralliar who is retiring. Chesney was born in Knoxville on Nov. 29, 1927: he received his bachelor of science degree from the University of Tennessee in Knoxville and his doctor of medicine degree from the University of Tennessee College of Medicine in Memphis. He is rated as a chief flight surgeon. General Chesney is married to the former Mary Ann Wilson of Memphis.

TMA Members Receive AMA Physician's Recognition Award

Twenty-one TMA members qualified for the AMA Physician's Recognition Award during June 1985.

To qualify for the PRA, a minimum of 150 hours of continuing medical education must be earned over a three-year period; 60 of these hours must be Category 1.

This list does not include members who reside in other states. Names of additional PRA recipients will be published as they are received from AMA.

Benjamin L. Beatus, Jr., M.D., Memphis Basil A. Bland, Jr., M.D., Memphis Lawrence L. Bushkell, M.D., Knoxville Harold J. Crecraft, M.D., Nashville James H. Creel, Jr., M.D., Chattanooga Mary S. David, M.D., Dyersburg James F. Easterly, Jr., M.D., Greeneville Mark S. Edwards, M.D., Chattanooga Raymond A. Finney, Jr., M.D., Maryville Ted L. Flickinger, M.D., Maryville John C. Flynn, M.D., Hendersonville William L. Maden, M.D., Johnson City Robert C. McEwan, Jr., M.D., Memphis Rodney M. McMillin, M.D., Harriman William M. Murphy, M.D., Memphis William C. North, M.D., Memphis Michael J. Odell, M.D., Greeneville Samuel B. Rutledge, M.D., Nashville John F. Schwerkoske, M.D., Memphis Robert B. Shack, M.D., Nashville Kenneth N. Wyatt, M.D., Hendersonville

new members

The JOURNAL takes this opportunity to welcome these new members to the Tennessee Medical Association.

BRADLEY COUNTY MEDICAL SOCIETY *Edward D. McKinney, Jr., M.D.,* Cleveland

CONSOLIDATED MEDICAL ASSEMBLY OF WEST TENNESSEE

James Diffee, M.D., Jackson William Keith Williams, M.D., Jackson

GREENE COUNTY MEDICAL SOCIETY
Charles Alexander Montgomery, M.D., Greeneville

KNOXVILLE ACADEMY OF MEDICINE Jeffery D. Greenwood, M.D., Knoxville Riley S. Senter, M.D., Knoxville Robert G. Thompson, II, M.D., Knoxville

MEMPHIS-SHELBY COUNTY MEDICAL SOCIETY

(Student)

Steven T. Clark, Memphis

MONTGOMERY COUNTY MEDICAL SOCIETY

Paul Sangyong Cha, M.D., Clarksville Robin L. Rice, M.D., Clarksville

NASHVILLE ACADEMY OF MEDICINE

John E. Arradondo, M.D., Nashville Darrel L. Ellis, M.D., Nashville Robert Samuel Kincaid, M.D., Franklin S. L. Lampkin, IV, M.D., Nashville Kenneth Howard Laws, M.D., Nashville Kristie Lynn, M.D., Mt. Juliet Thomas E. Nesbitt, Jr., M.D., Nashville Dipti J. Patel, M.D., Nashville Jerome S. Tannenbaum, M.D., Nashville Martin H. Wagner, M.D., Nashville W. Scott West, M.D., Nashville

NORTHWEST TENNESSEE ACADEMY OF MEDICINE

Joe Hunt, M.D., Ripley

RUTHERFORD COUNTY/STONES RIVER ACADEMY OF MEDICINE

Joseph Eddins Boone, M.D., Murfreesboro William Andrew Brown M.D., Murfreesboro Kenneth F. Caissie, M.D., Murfreesboro Scott Okrina Caudle, M.D., Murfreesboro Robert Preston Hornsby, M.D., Murfreesboro David Thomas McKnight, M.D., Murfreesboro Eugene I. Sacks, M.D., Smyrna M. Wayne Westmoreland, M.D., Murfreesboro

SMITH COUNTY MEDICAL SOCIETY

William G. Jackson, M.D., Carthage

WASHINGTON/UNICOI/JOHNSON COUNTY MEDICAL ASSOCIATION

Wesley McArthur Pitts, Jr., M.D., Johnson City James A. Ross, M.D., Johnson City

announcements

CALENDAR OF MEETINGS

NATIONAL

Oct. 1-5	American Group Practice Association—
	Caesar's Palace, Las Vegas
Oct. 2-5	American Neurological Association-Mar-
	riott Hotel, Chicago
Oct. 2-6	American Academy of Cerebral Palsy and
	Developmental Medicine—Westin Hotel,
	Seattle
Oct. 2-6	Christian Medical Foundation International
	—Sheraton Sandkey, Clearwater, Fla.
Oct. 5-8	International Society for Artificial Organs—
	Palmer House, Chicago

SEPTEMBER, 1985 589

Oct. 8-11	American Institute of Ultrasound in Medicine—Dallas Convention Center	Oct. 27-Nov. 1	American Society of Maxillofacial Surgeons—Kansas City Conventions Center,
Oct. 9-11	American School Health Association—Ex-	Oct. 27-Nov. 1	Kansas City, Mo.
Oct. 9-13	celsior Hotel, Little Rock, Ark. American Academy of Psychiatry and the Law—Marriott Hotel, Albuquerque, N.M.	Oct. 27-Nov. 1	American Society of Plastic and Reconstructive Surgeons—Kansas City Convention Center & Westin Hotel, Kansas City,
Oct. 9-13	American College of Gastroenterology—	N 2.0	Mo.
Oct. 10-12	Franklin Plaza, Philadelphia Central Association of Obstetricians and	Nov. 2-8	American Society of Clinical Pathologists— Las Vegas Hilton
	Gynecologists—Fairmont Hotel, New Orleans	Nov. 3-6	American Association for the Study of Liver Disease—Marriott Hotel, Chicago
Oct. 10-13	American Academy of Clinical Psychiatry— Meridien, San Francisco	Nov. 4-9	American Society of Cytology—New York Hilton
Oct. 10-13	American Academy of Family Physicians— Marriott Hotel, Anaheim, Calif.	Nov. 5-8	American Academy of Clinical Anesthesiologists—Resorts International Hotel, Atlan-
Oct. 10-13	American Society of Internal Medicine—	N 5 10	tic City, N.J.
Oct. 10-13	Hyatt Regency, Washington, D.C. Association of Clinical Scientists—Drake Hotel, Chicago	Nov. 5-10	American Medical Women's Association— Hyatt Union Square, San Francisco American Representin Association American Representing Association
Oct. 11-13	American College of Nuclear Medicine—	Nov. 7-8	American Pancreatic Association—Ambassador West Hotel, Chicago
Oct. 12-15	New York American Medical Directors Association—	Nov. 7-9	Southern Thoracic Surgical Association— Boca Raton Hotel and Club, Boca Raton,
	Honolulu		Fla.
Oct. 12-16	American Society of Anesthesiologists—San Francisco Hilton	Nov. 7-10	Academy of Psychosomatic Medicine— Fairmont Hotel, San Francisco
Oct. 12-20	American Medical Tennis Association— Town & Country, San Diego	Nov. 9-10	Association for the Advancement of Psychotherapy—Grand Hyatt Hotel, New York
Oct. 13-18	American College of Surgeons—Chicago Hilton and Towers	Nov. 10-14	American College of Angiology—Hyatt at Palmetto Dunes, Hilton Head Island, S.C.
Oct. 17-18	American College of Clinical Pharmacology—Barclay Hotel, Philadelphia	Nov. 10-15	Association of Military Surgeons of the United States—Hilton Hotel, Anaheim,
Oct. 17-20	Westwood Carolina Conference on Clinical Dermatology—Marriott Resort, Hilton Head	Nov. 12-16	Calif. American Association for Cancer Educa-
	Island, S.C.	Nov. 12-10	tion—Hyatt Regency, San Francisco
Oct. 18-19	American Academy of Otolaryngic Aller- gy—Atlanta	Nov. 17-20	American Physicians Art Association—Orlando, Fla.
Oct. 18-20	American Pain Society—Loews Anatole Hotel, Dallas	Nov. 17-20	Southern Medical Association—Wyndham Hotel, Orlando, Fla.
Oct. 18-22	American Academy of Neurological and Orthopaedic Surgeons—Caesar's Palace	Nov. 17-21	American Public Health Association—Washington, D.C.
Oct. 19	Hotel, Las Vegas American Rhinologic Society—Atlanta	Nov. 17-22	Radiological Society of North America—
Oct. 20-24	American Academy of Otolaryngology-Head	Nov. 18-21	McCormick Place, Chicago Interstate Postgraduate Medical Associa-
Oct. 22-25	and Neck Surgery—Hyatt Regency, Atlanta American Academy of Occupational Medi-	N 22.26	tion—Marriott Hotel, New Orleans
Oct. 22-23	cine—Sheraton World, Orlando, Fla.	Nov. 23-26	National Perinatal Association—Sheraton World, Orlando, Fla.
Oct. 23-27	American Academy of Child Psychiatry— Marriott/Hilton, San Antonio, Tex.	Nov. 30-Dec. 8	American Medical Tennis Association— Smoke Tree Ranch, Palm Springs, Calif.
Oct. 24-27	American Association for Hand Surgery— Vista International, Kansas City, Mo.		STATE STATE
Oct. 24-27	American Society of Bariatric Physicians—	Oct. 6	Tennessee Psychiatric Association—Shera-
Oct. 27-31	Riviera, Las Vegas American College of Chest Physicians—Hil-	Oct. 10-12	ton Music City Hotel, Nashville Child Neurology Society—Peabody Hotel,
Oct. 27-31	ton, New Orleans Medical Group Management Association—	Nov 5 º	Memphis
Oct. 21-31	Palmer House, Chicago	Nov. 5-8	Tennessee Academy of Family Physicians— Mills Auditorium, Gatlinburg

TENNESSEE MEDICAL ASSOCIATION 151ST ANNUAL MEETING

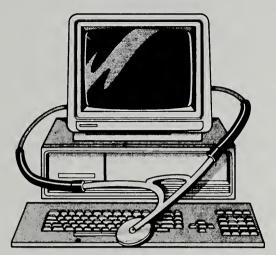
April 9-12, 1986

Opryland Hotel, Nashville

MANAGE YOUR OFFICE MORE EFFECTIVELY WITH THE MPM 1000 SYSTEM AVAILABLE THROUGH SOUTHERN MEDICAL ASSOCIATIONS PHYSICIANS' PURCHASING PROGRAM

Manage your office more effectively with the MPM 1000 System available through the Physicians' Purchasing Program.

Managing your office shouldn't be hard; however, with the current insurance requirements and



the impending Medicare changes looming on the horizon, it will get more difficult. You should call Curtis 1000 Information Systems or Southern Medical Association to find out how the MPM 1000 can help make your practice run more effectively.

AVAILABLE ON IBM A/T

MPM 1000 Simplifies Your Paperwork

You will be able to reduce the mountains of paper-work by using your MPM 1000 system to process all your insurance, complete your billing plus instantaneously sort and file necessary information.

MPM 1000 Speeds Up Your Cash Flow

The MPM 1000 system will increase your daily bank deposits by processing all your insurance and patients' receivables quickly.

MPM 1000 Improves Your Practice Management

With the MPM 1000 system you can easily and intelligently manage your practice with computer generated reports. Trends and problems are easily identified so you can take corrective action before they become serious.

MPM 1000 Is A One Source Solution

The MPM 1000 is a one source solution. With your system you receive all hardware (IBM or Texas Instruments), software, complete five day training program and responsive after sale support.

IBM PC/AT At Discount

Best of all, these systems are available through SMA Services, Inc., Physicians' Purchasing Program with substantial discounts on IBM and Texas Instrument equipment.

FOR MORE INFORMATION, please fill out the coupon below and mail it to Southern Medical Association, or for faster service call Southern Medical at (205) 945-1840 or Curtis 1000 Information Systems at 800-241-4780.

T VEOL 1111		(1000			
☐ YES! I would like more info	ormation on MPN	1 1000			
My interests are: \square Immediate I am a member of SMA \square	☐ Long term	☐ Please cont	act me for a surve	У	
Name (Please Print)					
Address					
City		State	Zip		
			()	
Specialty			Office P	hone	
λ	Mail to: CURTIS 100 2296 Henderso		N SYSTEMS		

Atlanta, Georgia 30345

Highlights of the TMA Board of Trustees Meeting July 14, 1985

The following is a summary of the major actions taken by the Board of Trustees of the Tennessee Medical Association at its regular third quarter meeting in Gatlinburg, Tenn., on July 14, 1985.

THE BOARD:

Impaired Physician Committee

Allocated 1985 Tharp Award funds to Dr. David Dodd to allow for compilation of data on the Impaired Physician Program into research form. The Board directed the final report by Dr. Dodd be presented to TMA and the Tharp Foundation.

For-Profit TMA Subsidiary and Insurance Agency Partnership

Approved the charters and bylaws establishing a TMA for-profit subsidiary and a partnership insurance agency with Insurance Planning and Service Company. Counsel was directed to file the necessary legal documents to complete the formation of the companies. The Board named Drs. Thomas K. Ballard. John R. Nelson, Jr., Thurman L. Pedigo, James R. Royal, and Clarence R. Sanders to comprise the first Board of Directors of TMA Physician Services. Inc.

Ad Hoc Committee to Study Physician Reimbursement Received a report from the Ad Hoc Committee to Study Physician Reimbursement. The Committee noted in its report three areas of need: (1) marketing and research, (2) legal and negotiating support, and (3) medical staff support. The Committee recommended that the Board appoint a committee on medical practice to actively continue to work on physician reimbursement issues and methods of keeping the membership informed of the changes, and to appoint a task force to study the feasibility of developing a statewide TMA-sponsored HMO/IPA. The recommendations were adopted.

Geriatrics Committee

Approved funds up to \$1,000 for funding of a symposium on geriatrics in September.

Committee on Communications and Public Service

Accepted Dr. Alfred Rogers' report from the Committee on Communications and Public Service. The consensus of the Board was to include an "image program" as part of the TMA Annual Meeting, and to appoint Drs. Robert E. Bowers, Chattanooga, and William E. Rowe, Chattanooga, to serve on the Committee.

Rural Health Committee

Agreed to conduct two Rural Health Conferences each year, one in spring and one in fall beginning in 1986, and suggested Dr. Alfred Rogers be contacted to assist in the planning of the conferences. The Board thanked the Committee and Mr. Bill Wallace for the work that had been done on these conferences.

Auxiliary Report

Received a report from Mrs. Frances Pedigo, president of the TMA Auxiliary.

Mid-South Foundation for Medical Care Reiterated its support of Mid-South Foundation for Medical Care as the designated PRO for the Medicaid Program in Tennessee.

IMPACT

Received a report that IMPACT (Independent Medicine's Political Action Committee-Tennessee) membership had increased this year even though there was an increase in dues and a reduction to two membership categories. Total revenues received for the year-to-date were the largest ever collected in a non-election year.

Appointments

Submitted the names of Drs. Michael Neidermeyer, Nashville, John Byers, Bristol, and Jack Hixson, Chattanooga, for appointment consideration to the State Air Pollution Control Board; submitted the names of Drs. Joseph L. Willoughby, Franklin, James A. Greene, Knoxville, and Robert T. Tucker. Jr., Jackson, for appointment consideration to the State Board of Examiners for Nursing Home Administrators.

Appointed Dr. Fredia Wadley, chief medical officer of Tennessee, to serve as an ex-officio member on the Committee on Governmental Medical Services, Interprofessional Liaison Committee and Committee on Legislation, and as a regular member of the Committee on Rural Health, Committee on Emergency Medical Services, Committee on Maternal and Child Care, Primary Health Care Clinics Committee, and the Geriatrics Committee.

Appointed Dr. Jack Butterworth, Bristol, as the Board liaison to the Tennessee Association of Long Term Care Physicians and the Tennessee Neurosurgical Society, and as a TMA representative to the State Volunteer Mutual Insurance Company's (SVMIC) Loss Prevention Committee from East Tennessee.

Appointed Dr. Howard Boone, Memphis, to serve as a member of the Impaired Physician Committee.

Travel Committee

Accepted the Travel Committee's recommendation that two trips be sponsored by TMA—a Caribbean cruise in early 1986 and a trip to Spain in May, 1986.

Physician Health Promotion Survey Endorsed a proposed Tennessee Department of Health and Environment Physician Health Promotion Survey, which is part of a dissertation of a doctoral candidate at UT Knoxville.

Appointment of TMA Auditor for 1985 Named the firm of Byrd, Bellenfant and Eidson, PC, for audit services to TMA for the fiscal year ending Dec. 31, 1985.

Financial Statement

Approved the operating report for the first six months of 1985 including receipts, expenditures and an investment summary.

1988 Annual Meeting Headquarters Hotel Selected the Peabody Hotel as the headquarters hotel for the 1988 TMA Annual Meeting in Memphis.

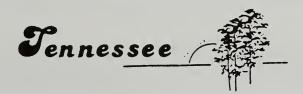
NORTH AMERICAN TRANSPLANT COORDINATORS ORGANIZATION

Announces An
ORGAN DONATION
Information and Referral
HOTLINE

for Physicians and Health Care Professionals

DIAL 800/24-DONOR Day or Night

To refer a potential postmortem organ donor or to secure information concerning donation and procurement of organs for transplantation— or call your regional organ procurement program



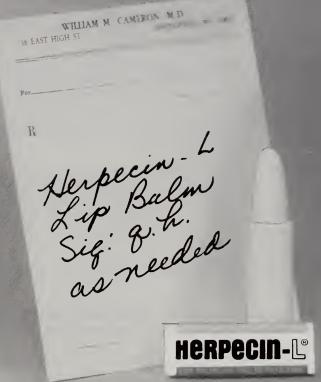
PRACTICE OPPORTUNITIES

The Tennessee Physician Placement Service acts as a clearinghouse for private practice physicians seeking a Tennessee community in which to establish a practice, whether solo, partnership, group or salaried position is your preference. This is accomplished by allowing physicians seeking associates and communities seeking a physician to list their opportunity. We then disseminate this information to inquiring physicians. Our service also assists physicians interested in public health, mental health or physicians with a National Health Service Corps obligation. There is no charge for this service.

For further information, please contact:
Physician Placement Service
Tennessee Department of Health and Environment
100 9th Avenue North
Nashville, Tennessee 37219
(615) 741-7308

SEPTEMBER, 1985 593

Dx: recurrent herpes labialis



"HERPECIN-L is my treatment of choice for perioral herpes." GP, NY

"HERPECIN-L appears to actually **prevent** the blisters . . . used **soon enough.**" DDS, MN

"HERPECIN-L®...a conservative approach with low risk/high benefits." MD, FL

"Used at prodromal symptoms . . . blisters never formed . . . remarkable." DH, MA

"(In clinical trials)...response was dramatic. HERPECIN-L..proven far superior." DDS, PA

"All patients claimed shorter duration . . . at prodromal symptoms . . . HERPECIN-L averted the attacks." MD, AK

OTC. See P.D.R. for information. For samples to make your own clinical evaluation, write: CAMPBELL LABORATORIES, INC., P.O. BOX 812-MD, FDR STATION, NEW YORK, N.Y. 10150

In Tennessee HERPECIN-L is available at all *Eckerd, Revco, Super D, SupeRx Drug Stores* and other select pharmacies.

SUMMER 1985

Association Travel

REPORT

Dear Association Member:

Alamo Rent A Car is now proud to announce the opening of Washington, D.C. and Savannah, Georgia.

As an additional **BONUS**, take advantage of the special offers listed below when traveling to one of Alamo's many locations:

RESERVATIONS

To receive your Association rate, you must make your reservation at least 24 hours in advance, request plan "BY" and give the I.D. number on your Alamo membership card. That's all there is to it!

Start saving as much as 30% the very next time you rent a car by calling your Travel Professional or Alamo at 800-732-3232.

ALAMO NOW GUARANTEES ASSOCIATION RATES THROUGH DEC. 31, 1985

1985 Car Models and Features	Nationwide Daily Weekly		Florida/Hawa Weekly		
Chevy Chevette (or similar)	^{\$} 19	\$ 8995	\$ 7995		
Chevy Cavailer (or similar)	\$ 21	\$109 ⁹⁵	\$ 8995		
Cutlass Ciera (or similar)	\$23	\$129 ⁹⁵	\$ 9995		
Buick Regal (or similar)	\$25	\$159 ⁹⁵	\$119 ⁹⁵		
Chevy Celebrity Wagon	\$ 27	\$179 ⁹⁵	\$129 ⁹⁵		
Buick Riviera (or similar)	\$29	\$19995	\$159 ⁹⁵		

Surcharges may apply during peak periods. Car categories subject to availability. Prices guaranteed through 1985 Gas, tax, rental deposit, option Collision Damage Waiver and Personal Accident Insurance are extra. 5 day minimum for weekly rate.

MIDSIZE SAVINGS \$ 100 \$ 1500 Day Weekly Alama features line General Matars cars such as the Burch Samersel Regal

Alamo. A Great Deal More.

Offer Good July 1st through December 15th, 1985

93128

Association I.D. No.







OWNED AND PUBLISHED BY THE ASSOCIATION

OCTOBER, 1985 VOL. 78, NO. 10

Henoch-Schonlein Purpura A Review

BRAD E. BLANKENSHIP

Introduction

Henoch-Schonlein purpura (HSP) is also known as anaphylactoid purpura, leukocytoclastic vasculitis, and allergic vasculitis.1 It affects multiple organ systems and is associated with a diffuse IgA vasculitis2 most commonly expressed as purpura, glomerulonephritis, abdominal pain, and arthritis.3 Other less common expressions are testicular pain and torsion,3 pulmonary complications, 1,4 CNS lesions, 5,6 myocardial infarction, 7 and cardiac tamponade.8 Being largely a disease of children, with most cases occurring between 2 and 7 years of age (mean age of 5.5 years),9 it occasionally occurs in adults.¹⁰ Cases of an 89year-old woman¹¹ and a 72-year-old man¹² have been described. There are more male than female patients, and there is a seasonal predilection for winter.1 HSP bears a resemblance both clinically and histologically to several other diseases, the most notable being Berger's disease (IgA nephropathy). 14 There are several prognostic indicators in HSP, including factor XIII levels (fibrin stabilizing factor),15 glomerular crescents, 16-22 nephrotic/nephritic syndrome, 17,20,23

subepithelial deposits,²³ and extracellular "lead shot" microparticles.²³

Henoch-Schonlein purpura was named after two 19th century physicians, E.H. Henoch (1820-1910) and Lucas Schonlein (1793-1864). With Carl Genhart, E.H. Henoch established Germany's status at the forefront of pediatrics during the last century by co-founding the prolific German School of Pediatrics. Henoch was an active lecturer and author who, in 1874, described the purpura and renal involvement of this disease in Berliner Klinische Wochenschrift. Lucas Schonlein was a well-known clinician who likewise became a leader of German pediatrics in the 1800s. Schonlein's accomplishments include editing the journal Isis for many years, and founding the Natural History School and German Congress of Nature Investigators and Physicians in 1822.²⁴ In 1874, Schonlein first described the arthritic component of this disease in four children with skin lesions, abdominal pain, purpura, gastrointestinal hemorrhage, and joint pain.9

Clinical Presentation and Pathophysiology

The most common clinical manifestations of HSP are purpura, glomerulonephritis, arthritis, and abdominal pain. Rare clinical findings include testicular pain and torsion,³ pulmonary complications,^{1,4} CNS^{5,6} and peripheral nervous

OCTOBER, 1985 615

From the University of Tennessee Center for the Health Sciences, Memphis. Mr. Blankenship is a medical student.

Reprint requests to 5712 Jardin Place, Memphis, TN 38115 (Mr. Blankenship).

HENOCH-SCHONLEIN PURPURA/Blankenship

system lesions,²⁵ and myocardial tamponade⁸ and infarction. These diverse clinical manifestations all have a similar histologic picture due to an identical pathophysiologic mechanism. Central to this mechanism is an increase in both circulating IgA and circulating IgA bearing lymphocytes, 26-28 the cause of which remains uncertain. Biopsy of the affected organs reveals multiple electron dense deposits of IgA and C₃ in both arterioles and venules.² These deposits cause an activation of the alternate compliment pathway, resulting in a necrotizing vasculitis with perivascular infiltration of lymphocytes and neutrophils.⁷ The lesion is expressed differently in various organs and results in the characteristic clinical picture.²⁹ For example, skin involvement occurs in 95% to 100% of the patients¹³ and yields a palpable symmetrical nonthrombocytopenic purpura, usually on the legs and buttocks.

Renal involvement occurs in 45% of HSP patients.13 The lesion is a proliferation of endothelial and mesangeal cells ranging from a focal segmental proliferation to a diffuse proliferative glomerulonephritis with crescent formation. Manifestations of renal involvement are frequency, microscopic and gross hematuria, and mild proteinuria,30 most of which usually subside within one month without residual effects,30 though a minority of patients may have serious renal manifestations that appear much later³¹; 10% progress to renal failure.32 Mesangeal deposits of IgA are an almost universal finding in HSP, but whether this is a specific Ab-Ag reaction or a nonspecific mechanical process is yet to be determined. The number of deposits reflects the ratio of deposition to removal. If this ratio rises to a very high level, the immune complexes can occupy the subepithelial space, giving the patient a much poorer prognosis.23

Arthritis is present in 71% of children with HSP,¹³ usually in the form of a nonmigratory polyarthritis without effusion. The knees and ankles are the most commonly affected joints, although wrist, hip, and elbow involvement have been described. The severity of the inflammation varies widely, but usually resolves without sequelae.³⁴ Abdominal pain occurs in 57% of patients and has been associated with several gastrointestinal complications,^{35,36} which include pancreatitis,³⁷ cholecystitis, appendicitis³⁸ and bowel obstruction,² perforation,^{39,40} and intussusception.² HSP usually presents with two or more of these

clinical symptoms.

IgA nephropathy (Berger's disease) and the renal lesions of HSP are histologically identical using microscopic and immunofluorescent techniques.41-44 There are also several other similarities between these two diseases. Both have increased IgA and IgA-bearing lymphocytes in plasma and pharyngeal washings, and both have antibodies that will cross-react with renal tissues of the other disease.42 Renal biopsies are identical, characterized by mesangeal deposits of IgA, IgM, and C₃⁴³; both are an IgA-mediating glomerulonephritis.26,45 These findings have led several authors to conclude that the two diseases are the result of a similar immunological disturbance³³ and that Berger's disease may be a monosymptomatic, nonvascular form of HSP.41,42,46

Etiology

Increased IgA levels are central to the pathogenesis of HSP,47 but a basic question remains unanswered. Why does the IgA become elevated? Possibilities include decreased clearance or increased production. Two theories supporting increased production have recently appeared in the literature. The first is based on the observation that HSP may be seen in association with several neoplastic conditions such as lymphoma,48 lung cancer,15.49 and prostatic cancer.^{29,50} This theory proposes that some unknown antigen, such as cancer antigen, is recognized by the patient's immune system, causing his lymphocytes to produce greatly elevated levels of IgA. The alternate pathway is activated and ultimately results in a necrotizing vasculitis with infiltration of lymphocytes, neutrophils, and immune complexes containing IgA, C3, and fibrin.^{29,51} The second theory is similar, except that the unknown antigen, possiby bacterial or viral, lodges on a mucosal surface and stimulates a secretory dimeric IgA response. It is then taken up and migrates through the lymphoid system, causing a monomeric IgA response. The rest of the cascade takes place as previously described with activation of the alternate pathway ending in vasculitis.52,54 This theory was postulated to explain why some investigators have found only monomeric IgA41 while others have found mixed forms with dimeric IgA dominating.55 This controversial point requires more research. On gross analysis, however, it appears HSP could be due either to excess immune stimulation, to an inability to properly clear IgA from the body, or to a combination of the two.2

Treatment and Prognosis

Only the most advanced cases of HSP with two or more poor prognostic factors require treatment. Because IgA elevation is central to the pathogenesis of this disease, treatment is aimed at lowering the IgA concentration. This is approached with steroids,56 which decrease IgA production, and with plasmaphoresis,⁵⁷ which directly removes IgA. Steroids, the more conventional approach.^{58,59} have been shown to produce early symptomatic improvement in both gastrointestinal and joint pathology. Skin and renal involvement is unaltered.9 Uncontrolled studies have failed to show a long-term effect of steroids on this disease. 60 Several studies have shown that plasmaphoresis gives substantial improvement in renal function^{51,61,62} and purpura, 15 but none has examined its effect on arthritis or gastrointestinal complaints.51 The most effective treatment for severe cases is the simultaneous use of both.

HSP usually carries a good prognosis unless there is diffuse multi-organ involvement. One of the newer methods being used to diagnose, evaluate, and monitor HSP is the level of factor XIII (fibrin stabilizing factor—FSF) found in the patient's plasma. 15 A decrease indicates more severe disease, while an elevation heralds recovery. It is postulated that change in FSF is due to a specific white blood cell protease which selectively breaks down factor XIII.15 Selective factor XIII degradation is well documented in both Weber-Christian disease⁶³ and leukemias.⁶⁴ The histologic methods used to reflect a poor prognosis are glomerular crescents, 16-22 dense subepithelial deposits,23 and extracellular paracrystalline "lead shot" microparticles.²³ A clinically negative sign is the appearance of a nephrotic or nephritic syndrome, with the nephritic syndrome being the more ominous. 17.20.23

Summary

HSP is a clinically diagnosed, IgA-mediated disease affecting multiple organ systems of the body. It is seen primarily in children, usually in a mild form; treatment is seldom being required. Patients needing treatment can be identified by several available prognostic indicators. The pathophysiology has been well described, but the etiology remains a mystery. Viral, bacterial, 65.66 autologous, and pharmacologic^{25,67} antigens, along with decreased IgA clearance, have all been postulated. Another controversy involves the exact type of IgA involved; possibilities include immune complexes. monomeric and dimeric forms, or a mixture of the three. The relationship between HSP and several immune complex diseases also remains unsolved. Clearly, much potential exists for research in this field.

REFERENCES

- 1. Scitinder K. Gregorio C: Fatal pulmonary Henoch-Schonlein syndrome. Chest 82: 654-656, 1982,
- 2. Stevenson J, Leong L, Cohen A, et al: Henoch-Schonlein purpura. Arch Pathol Lab Med 106:192-195, 1982.
- 3. O'Regan S, Robitaille P: Orchitis mimicking testicular torsion in Henoch-Schonlein purpura. J Urol 126:834-835, 1981.
- 4. Marandian MH, Ezzati M. Behusd A, et al: Manifestations pulmonaries du purpura rheumatoide de Schonlein-Henoch chez un enfant de huit ans. Arch Francaises de Pediat 39:255-257. 1982.
- 5. Ritter FJ, Seay A. Later ME: Peripheral mononeuropathy complicating anaphylactoid purpura. *J Pediatr* 103:77-78, 1983.
 6. Puglsang G, Lie HR: Cerebral involvement in Schonlein-Henoch syn-
- drome, brain edema demonstrated by CT scanning. Ugeskrift for Laeger 144:2283.
- 7. Abdel-Hadi O. Hartley RB, Greenstone MA, et al: Myocardial infarction—a rare complication in Henoch-Schonlein purpura. Postgrad Med J 57:390-392, 1981
- 8. Delhumeau A, Cavellat JF, Granry JC, et al: Cardiac tamponade in rheumatoid purpura. Ann Françaises d'Anesthesie et de Reanimation 1:183-185,
- 9. Nath D, Oski F: Hematology of Infancy and Childhood, vol 2. Philadelphia, W. B. Saunders Co. 1981, pp 1311-1313.
- 10. Miura H, Nakayama M, Kuwahara K: Five cases of Schonlein-Henoch purpura nephritis in the adult. Nippon Jinzo Gakkai Shi 24:955-963, 1982
- 11. Ballard H. Eisinger R, Gallo G: Renal manifestations of Henoch-Schonlein syndrome in adults. *Am J Med* 49:328-335, 1970.
- 12. Case records of the Massachusetts General Hospital weekly clinicopathological exercise. Case 5-1983—A 72-year-old man with palpable purpura, proteinuria, and microscopic hematuria. *N Engl J Med* 308:267-273, 1983.

 13. Coovadia HM: Henoch-Schonlein purpura in black and Indian children
- in Natal. S Afr Med J 62:433-434, 1982
- 14. Fauci AS, Kaynes BF, Katy P: The spectrum of vasculitis. Ann Intern Med 89: 660-676, 1978.
- 15. Dalens B. Travade P. Labbe A. et al: Diagnostic and prognostic value of fibrin stabilizing factor in Schonlein-Henoch syndrome. Arch Dis Child 58:12-14, 1983
- 16. Habib R, Levy M: Anaphylactoid purpura nephritis. Clin Pediatr 12:445. 1973.
- 17. Meadow SR, Glasgo E, White RHR, et al: S-H nephritis. Q J Med 41:241.
- 18. Koskimies O, Sanilaket E, Vilsko J: Renal involvement in Schonlein-Henoch purpura. Acta Paediatr Scand 63:357, 1974.
- 19. Levy M, Broyer M, Arsan A, et al: Anaphylactoid purpura nephritis in childhood, in Natural History and Immunopathology in Advances in Nephrology. Chicago, Year Book Publishing Co, 1976, p 183.

 20. Corinahan R, Winterborn MH, White RHR, et al: The prognosis of
- Henoch-Schonlein nephritis in children. *Br Med J* 2:11, 1977.

 21. Kobayshi O, Wada H, Okawa K, et al: Schonlein-Henoch syndrome in
- children. Contrib Nephrol 4:48, 1977
- 22. Sinnah R, Peng PH, Chin BTM: Henoch-Schonlein syndrome: a clinical
- Sindan R, Peng PH, Chin BM: Henoch-sconoien syndrome: a clinical and morphological study of renal biopsies. Clin Nephrol 9:219, 1978.
 Yoshikawa N, White RHR, Cameron AH: Prognostic significance of the glomerular changes in Henoch-Schonlein nephritis. Clin Nephrol 16:223-229, 1981.
 Castiglione A: A History of Medicine. New York, Alfred A. Knoph Publishing Co. 1947, pp 711-712.
 Beeching NJ, Gruer LD, Findlay DD, et al: A case of Henoch-Schonlein and Company of the control of t
- purpura syndrome following oral ampicillin. J Antimicrob Chemother 10:479-482.
- 26. Livinsky R. Barratt T: IgA immune complexes in Henoch-Schonlein purpura. Lancet 2:1100-1102, 1979.
- 27. Woodroffe A, Gormby A, McKenzie P: Immunologic studies in IgA nephropathy. Kidney 18:336-374, 1980.
- 28. Kuno-Sakai H, Sakai H, Nomoto Y, et al: Increase of IgA bearing peripheral blood lymphocytes in children with Henoch-Schonlein purpura. Pediatrics 64: 918-922, 1979.
- 29. Herrera-Espaiza R, Avalos-Diaz E: Intracellular deposits of antinuclear antibodies in Henoch-Schonlein purpura. J Rheum 9:811-812, 1983.

- 30. Linne T: Renal function and biopsy changes during the course of Henoch-Schonlein glomerulonephritis. *Acta Paediat Scand* 72:97-104, 1983.

 31. Koskimies O, Mir S, Papola J, et al: Henoch-Schonlein nephritis: long term prognosis of unselected patients. *Arch Dis Child* 56:482-484, 1981.

 32. Berhman RE, Vaughan VC: *Nelson's Textbook of Pediatrics*. Philadelphia, W. B. Saunders Co. 1983, pp 1338-1340.
- 33. Coppo R. Basolo B. Martina G. et al: Circulating immune complexes containing 1gA, 1gG, and 1gM in patients with primary 1gA nephropathy and with Henoch-Schonlein nephritis: correlation with clinical and histologic signs of activity. Clin Nephrol 18:230-239, 1982.

617 OCTOBER, 1985

HENOCH-SCHONLEIN PURPURA/Blankenship

- 34. Boyle JA, Buchanan WW: Clinical Rhematology. Philadelphia, F.A. Davis, 1971, pp 334-336. 35. Glaiser CM, Siegel MJ, McAlister W, et al: Gastrointestinal manifesta-
- tions of Henoch-Schonlein syndrome in children. Am J Rheum 136:1081-1085, 1981.
- 36. Morichau-Beauchant M, Touchard G, Maire P, et al: Jejunal IgA + C3 deposition in adult Henoch-Schonlein purpura with severe intestinal manifestations. Gastroenterology 82:1438-1442, 1982.

 37. Branski D, Gross V, Gross-Kieseletein E, et al: Pancreatitis as a compli-
- cation of Henoch-Schonlein purpura. J Pediat Gastroenterol Nutr 1:275-276, 1982.
- 38. Mohammed R: Acute appendicitis: a complication of Henoch-Schonlein purpura. J Roy Coll Surg Edinburgh 27:367, 1982.
- 39. Russo EM, Dalla Vedova F: Intestinal perforation in the course of Schonlein-Henoch syndrome. Minerva Pediatr 32:71-73, 1980.
- 40. Smith HJ, Krupski WC: Spontaneous intestinal perforation in Schonlein-Henoch purpura. South Med J 73:603-606, 610, 1980.
- 41. Conlcy ME, Cooper MD, Michael AF: Selective deposition of IgA in IgA nephropathy anaphylactoid purpura nephritis and SLE. J Clin Invest 66:1432-1436, 1980.
- 42. Tomino Y, Endoh M, Masahiko M, et al: Immunopathological similarities between IgA nephropathy and Henoch-Schonlein purpura nephritis. Acta Pathol Japonica 33:113-122, 1983.
- 43. Jenis EH, Lowenthal DT: Kidney Biopsy Interpretations. Philadephia, F.A. Davis, 1977, pp 114-124.
- 44. Weiss JH. Bhathena DB, Curtis JJ, et al: A possible relationship between Henoch-Schonlein syndrome and IgA nephropathy (Berger's disease)—an illustrative case. Nephron 22:582-591, 1978.
- 45. Berger J: IgA glomerular deposits with renal disease. Kidney 9:424-429,
- 46. Altrogge G. Hagen-Aukamp C. Grabensee B. et al: IgA nephropathy—monosymptomatic variant of Schonlein-Henoch purpura. Medizenische Welt
- 47. Dosa S, Caerns SA, Mallick NP, et al: Relapsing Henoch-Schonlein syndrome with renal involvement in a patient with an IgA monoclonal gammopathy—a study of the results of immunosuppressant and cytotoxic therapy. Nephron 26:145-148, 1980,
- 48. Gagliono RS, Costanzi JJ, Beathard GA, et al: The nephrotic syndrome associated with neoplasia: an unusual paraneoplastic syndrome. Am J Med 60:1026,
- 49. Mitchell DM: Relapse of Henoch-Schonlein disease associated with lung carcinoma. J R Soc Med 72:614-615, 1979.

- 50. Garcias VA, Herr HW: Henoch-Schonlein purpura associated with cancer of the prostate. Urology 19:155-158, 1982.
- 51. Kauffmann RH, Houwert DA: Plasmaphoresis in rapidly progressive Henoch-Schonlein glomerulonephritis and the effect on circulating IgA immune complexes. Clin Nephrol 16:155-160, 1981.
- 52. Casanueva B, Rodriguez-Valverde V, Merino J, et al: Increased IgA producing cells in blood of patients with active Henoch-Schonlein purpura. Arthritis Rheum 26:854-860, 1983.
- 53. Bannister KM. Drew PA, Clarkson AR, et al: Immunoregulation in glomerulonephritis, Henoch-Schonlein purpura and lupus nephritis. Clin Exper Immunol 53:384-390, 1983.
- 54. Andre C, Berthoux F, Andre F, et al: Prevalence of IgM2 deposits in lgA nephropathy. N Engl J Med 303:1343-1346, 1980.
- 55. Kutteh WH, Koopman WJ, Conley ME, et al: Production of predominately polymeric IgA by human peripheral blood lymphocytes stimulated in vitro with mitogens. *J Exper Med* 152:1424-1429. 1980.
- 56. Guetekin A, Erkan M: Successful treatment with corticosteroids of intestinal obstruction due to Henoch-Schonlein purpura. Turk J Pediatr 23:199-202,
- 57. Camerone G: Plasma exchange treatment in a patient with severe Schonlein-Henoch purpura. Minerva Med 73:1185-1187, 1982
- 58. Cream JJ, Gumpel JM, Peachy RDS: Schonlein-Henoch purpura in the adult: a study of 77 adults with anaphylactoid of Schonlein-Henoch purpura. Q J Med 39:833-854 1970
- Henoch-Schonlein purpura (leading article). Br Med J 1:190, 1977.
 McKenzie PE, Taylor AE, Woodroffe AJ, et al: Plasmaphoresis in glomerulonephritis. Clin Nephrol 12:97, 1979.
- 61. Pussil BA, Scott DM, Lockwood CM, et al: Value of immune complex assays in diagnosis and management. Lancet 1:359, 1978.
- 62. Henriksson P, Hedner U, Nilsson IM, et al: Generalized proteolysis in a young woman with Weber-Christian disease (nodular nonsupprative panniculitis). Scand J Heamatol 14:355-360, 1975.
- 63. Ehring R, Schmidt W. Havemarin K: Possible destruction of clotting factors (factor I and XIII) by leukocyte proteases in acute leukemia (abstract). Proceedings of the Fourth International Congress on Thrombosis and Haemostasis.
- 64. Rasmussen NH: Henoch-Schonlein purpura after yersiniosis. Arch Dis Child 57:322-323, 1982.
- 65. Roza M. Galbe M. Baschwitz C. et al: Henoch-Schonlein purpura after shigellosis. Clin Nephrol 20:269. 1983.
- 66. Goebel KM, Mueller-Brodmann W: Reversible overt nephropathy with Henoch-Schonlein purpura due to prioxicam. Br Med J 284(6312):311-312, 1982.
- 67. Avriam A: Henoch-Schonlein syndrome associated with quinidine. JAMA 243:432-433, 1980.

APRIL 1986						
Sunday	Monday	Tuesday	Wednesday Thursday		Friday	Saturday
		1	2	3	4	5
6	7	8	9 TMA Opt	10 151ST AN ryland Hot	11 INUAL ME el—Nash	12 ETING ville
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	NOTES		

Subconjunctival Hemorrhage, Periorbital Ecchymoses, and Facial Petechiae Following Cardioversion

PHILLIP ASHLEY WACKYM, M.D.; J. MICHAEL WARE, M.D.; and GEORGE F. GRAY, JR., M.D.

Introduction

The use of cardioversion (electrical defibrillation) in terminating atrial and ventricular arrhythmias has profoundly influenced the practice of cardiology and cardiac surgery. Although complications are rare, myocardial damage, cardiac arrhythmias, pulmonary edema, and embolism have been reported. Berger² reported the case of a patient who developed iris atrophy and iris pigment dispersion following cardioversion. We describe a patient who developed bilateral subconjunctival hemorrhages, periorbital ecchymoses, and facial petechiae following DC cardioversion. We have found no previous documentation of such a case.

Case Report

A 44-year-old white man was admitted to a local hospital in transfer from another hospital, where he had gone after suffering sustained chest pain and diaphoresis. While there he developed ventricular fibrillation which was terminated by DC cardioversion. He then vomited once. He smoked heavily and complained of episodic bronchitis and sinusitis; he took no medications except for an occasional acetaminophen tablet. No history of recent head or neck trauma was obtainable.

He had bilateral subconjunctival hemorrhages, periorbital ecchymoses, and facial petechiae (Fig. 1). The remainder of his ocular examination was normal. There was no facial edema, jugular venous pulsations were normal, and both venous and arterial pressures were considered to be within normal limits. There were bibasilar rales, but no murmurs or gallops. The remainder of the examination was negative.

Laboratory studies showed a hemoglobin level of 15.0 gm/dl, with a hematocrit reading of 46.2%. The WBC count was

14,700/cu mm, with a normal differential. The platelet count was 288,000/cu mm, with adequate platelet function as assessed by an Ivy bleeding time of six minutes. The ESR was 25 mm/hr. An automated serum chemistry profile showed no abnormalities. The BUN was 17 mg/dl, and the serum creatinine level was 1.1 mg/dl. The prothrombin time was 11.5s, with a control of 11.7s, and partial thromboplastin time was 22.6s, with a control of 25.5s.

A Swan-Ganz catheter was inserted via the right internal jugular vein and central venous pressures were found to be



Figure 1. Appearance of the patient three days after cardioversion. Bilateral subconjunctival hemorrhages, periorbital ecchymoses, and facial petechiae are evident.

OCTOBER, 1985 619

From the Division of Head and Neck Surgery, UCLA School of Medicine, Los Angeles (Dr. Wackym), and the Departments of Medicine (Dr. Ware) and Pathology (Dr. Gray), Vanderbilt University School of Medicine, Nashville.

Reprint requests to Department of Surgery, Division of Head and Neck Surgery, UCLA School of Medicine, Los Angeles, CA 90024 (Dr. Wackym).

CARDIOVERSION COMPLICATIONS/Wackym

normal. During his hospital course he complained of transient, episodic diplopia but was never found to have impaired extraocular muscle function. A roentgenographic skull series failed to show any abnormality, as did a contrasted computer tomographic study of his head. He recovered from his anterior myocardial infarction, and the subconjunctival hemorrhages, periorbital ecchymoses, and facial petechiae resolved.

Comment

The causes of subconjunctival hemmorhage (Table 1), periorbital ecchymoses (Table 2), and facial petechiae (Table 3) are numerous, but all can be divided into severe increased venous pressure in the head, trauma, bleeding disorders, and increased vascular fragility. Our patient had no history of direct head or neck trauma, and no evidence of bleeding disorders or increased vascular fragility. Of the previously established causes of these signs resulting from severe increase of venous pressure in the head, only vomiting occurred, and as in most patients who vomit during cardiopulmonary resuscitation, the vomiting was neither prolonged nor violent. Consequently, the common basis of these findings in this patient appears to be cardioversion.

Berger² reported a case in which ocular damage followed cardioversion. He noted extensive iris atrophy, iris pigment dispersion, and fixed pupils, which he attributed to direct electrical damage to iris pigment epithelium.

Although central venous pressures before and after cardioversion have been reported,¹⁷ the immediate effect of cardioversion on internal jugular venous pressure is unknown. Our clinical ob-

TABLE 2

CAUSES OF PERIOBITAL ECCHYMOSES

Severe increases of venous pressure in the head

Cardioversion (this patient)

Prolonged vomiting

Trauma^{4,5}

Local blunt injury to orbital or adjacent structures, including base of skull, sinus, nasal, and orbital fractures

Bleeding disorders

Sickle cell crisis¹¹

Thrombocytopenic purpura⁶

Hemophilia7

Multiple myeloma¹²

Increased vascular fragility

Scurvy⁸

Amyloidosis¹³

Idiopathic14

TABLE 1

CAUSES OF SUBCONJUNCTIVAL HEMORRHAGE

Severe increase of venous pressure in the head

Cardioversion (this patient)

Prolonged vomiting

Seizures

Strangulation

Carotid-cavernous sinus fistula³

Trauma^{4.5}

Local blunt injury to orbital or adjacent structures, including base of skull, sinus, and orbital fractures

Bleeding disorders

Thrombocytopenic purpura⁶

Hemophilia7

Increased vascular fragility

Scurvy⁸

Intravascular papillary endothelial hyperplasia9

Henoch-Schonlein purpura¹⁰

Idiopathic

servation, however, suggests that direct and instantaneous electrical stimulation of the thoracic musculature and the diaphragm resulted in concerted contraction, raising intrathoracic pressure; this in turn abruptly raised internal jugular venous pressure. The severe increase in venous pressure resulted in extravasation of blood from the ophthalmic, superior ophthalmic, and inferior ophthalmic veins, as well as other branches of

TABLE 3

CAUSES OF FACIAL PETECHIAE*

Severe increase of venous pressure in the head

Cardioversion (this patient)

Prolonged coughing, vomiting

Bleeding disorders

Thrombocytopenia

Bone marrow disease (leukemia, aplastic anemia, and

pernicious anemia)

Drugs

Hemangioma

Radiation

Splenomegaly

Systemic diseases and infections

Idiopathic

Abnormal platelet function

Increased vascular fragility

Scurvy

Senile and corticosteroid purpura

Amyloidosis

Henoch-Schonlein purpura¹⁶

Infections (bacterial, viral and rickettsial)

Idiopathic

^{*}After Champion.15

the facial veins; this produced the subconjunctival hemorrhages, periorbital ecchymoses and facial petechiae.

Summary

We have reported the case of a patient who developed bilateral subconjunctival hemorrhages, periorbital ecchymoses, and facial petechiae following DC cardioversion, presenting the numerous causes of these signs, and a mechanism by which cardioversion may produce them.

REFERENCES

- 1. DeSilva RA, Graboys TB, Podrid PJ, et al: Cardioversion and defibrillation. Am Heart J 100:881-895, 1980.
- 2. Berger RO: Ocular complications of cardioversion. Ann Ophthalmol 10:161-164, 1978.

- 3. Phelps CD, Thompson HS, Ossoinig KC: The diagnosis and prognosis of atypical carotid-cavernous fistula (red-eyed shunt syndrome). Am J Ophthalmol 93:423-436, 1982
- 4. Holt GR, Holt JE: Incidence of eye injuries in facial fractures: An analysis
- of 727 cases. Otolaryngol Head Neck Surg 91:276-279, 1983.
 5. Holt JE, Holt GR, Blodgett JM: Ocular injuries sustained during blunt facial trauma. Ophthalmology 90:14-18, 1983.
 - 6. Schönfeld W: Dermatologie für Augenärzte. Stuttgart. Thieme, 1947.
- 7. Leffertstra LJ: Severe haematoma of the eyelid in a patient with haemophilia. Ophthalmologica 143:131-133, 1962.
- 8. Palmer CAL: Simultaneous bilateral ocular haemorrhages in scurvy. Br J Ophthalmol 47:692-693, 1963
- 9. Font RL, Wheeler TM, Boniuk M: Intravascular papillary endothelial hy-
- perplasia of the orbit and ocular adnexa. *Arch Ophthalmol* 101:1731-1736, 1983. 10. Lorentz WB, Weaver RG: Eye involvement in anaphylactoid purpura. *Am J Dis Child* 134:524-525, 1980.
- 11. Slem G, Kumi M, Sökücü M: Hematomas of the lids during a sickle cell crisis. *Ann Ophthalmol* 13:1313-1314, 1981.
- 12. Loo H. Forman WB, Levine MR, et al: Periorbital ecchymoses as the initial sign in multiple myeloma. Ann Ophthalmol 14:1066-1068. 1982.
- 13. Milutinovich J. Wu W. Savory J: Periobital purpura after renal biopsy in primary amyloidosis. *JAMA* 242:2555, 1979.

 14. Carlson RE, Hering PJ: Allergic shiners. *JAMA* 246:835, 1981.
 15. Champion RH: Purpura, in Rook A, Wilkinson DS, Ebling FJG (eds): Textbook of Dermatology, ed 2. Oxford, Blackwell Scientific Publications, 1972, pp. 2009.010. pp 909-919.
- 16. Vickers PG: Henoch-Schonlein purpura; orofacial presentation. Br J Oral Maxillofac Surg 22:301-306, 1984.
- 17. Orlando JR, van Herick R, Aronow WS, et al: Hemodynamics and echocardiograms before and after cardioversion of atrial fibrillation to normal sinus rhythm. Chest 76:521-526, 1979.

OCTOBER, 1985 621

Louis Pasteur Commemorated on French Five Franc Note

THOMAS FITE PAINE, JR., M.D.

The French five franc note (Fig. 1) is handsome and attractive as an example of the engraver's art, but it also possesses much medical and scientific interest. While most nations memorialize their notable citizens on their currency,¹ France has commemorated Pasteur uniquely on its five franc certificate. This note is outstanding

From the Department of Medicine, Vanderbilt University School of Medicine, Nashville.

in its use of detail to show many of the remarkable and original accomplishments of the founder of the sciences of microbiology and infectious disease.²

Careful examination of this note provides a story of the beginning of modern knowledge of the role of microorganisms in nature and of their effects on man.

Some of the features of the note (Fig. 2) are described below:



Figure 1. French five franc note in natural color.

- 1. Grapes. Pasteur established the germ theory of fermentation and "saved" the French wine industry by showing that wine spoilage was caused by foreign microorganisms and could be avoided by moderate heating (pasteurization). Knowledge of the roles of microorganisms in fermentation led to a factual understanding of microorganisms as causative agents in infections of animals and men.
- 2. Trees. Pasteur showed that bacteria (Acetobacter) on beech tree wood shavings, traditionally used in the manufacture of vinegar, were responsible for converting wine into vinegar, and not the wood itself.
- 3. Fungus. Around the numerals 5, on the Pasteur Institute side of the note, appear microscopic views of a fungus. Using a fungus (Mucor), Pasteur correlated morphology and biochemical behavior of a microorganism with the availability of oxygen.
- 4. Pasteur Institute in Paris. Built by a grateful nation for Pasteur's continued research, the

- Institute is still a worldwide center for microbiological research.
- 5. Round white area in center of note. Transillumination of this area reveals a watermark of Pasteur as an old man.
- 6. Silkworms and mulberry leaves. Pasteur developed practical rules to decrease a catastrophic infection among silkworms that was hurting the French silk industry.
- 7. Bacteria with flagella. Around the numerals 5, on the reverse side of the note, are shown bacteria with flagella. These flagellated bacteria may allude to Pasteur's observation of the motile bacterium *Clostridium butyricum*, used in butyric fermentation, swimming away from the coverslip edge (near air) to the center of the coverslip (away from air), perhaps providing him the idea that forms of life exist that can function in the absence of oxygen.
- 8. Sheep. Pasteur established the bacterial cause of anthrax (at about the same time as Robert Koch) and developed immunization against

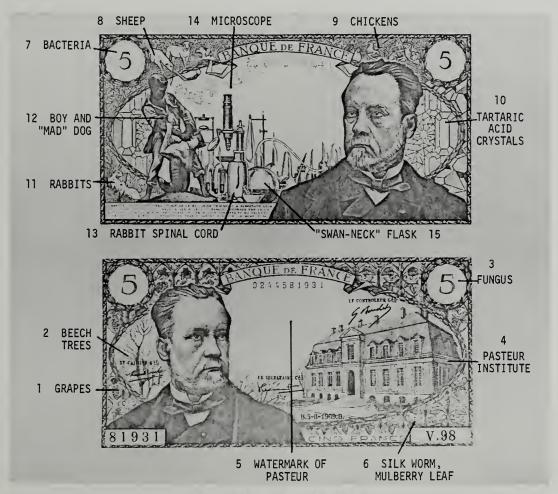


Figure 2. Five franc note with features noted.

OCTOBER, 1985 623

LOUIS PASTEUR/Paine

anthrax infection in sheep and cattle.

- 9. Chickens. Pasteur's discovery of the cause of chicken cholera, *Pasteurella multocida*, led to his momentous finding that attenuated strains of microorganisms could be used to protect against infection by the virulent strains—thus providing a means of immunizing against infection, providing the basis for the discipline of immunology. Studies on the reservoir of chicken cholera provided the concepts of epidemiology.
- 10. Tartaric acid crystals. By age 26, while studying tartaric acid crystals, Pasteur had discovered the relation of molecular structure to optical activity, later leading to the relation of molecular structure to living processes (the beginning of molecular biology?).
- 11. Rabbits. Pasteur infected rabbits with rabies (not then known to be a virus) in the attempt to attenuate the cause of rabies. From infected rabbits' spinal cords he prepared an immunizing vaccine against this dread disease.
- 12. Boy struggling with "mad" dog. Pasteur's development and use of rabies vaccine in man may have been the most dramatic event in a long life filled with amazing discoveries and achievements.

Among the variety of apparatus shown on the note, we see:

- 13. Desiccator jar containing the spinal cord from rabies-infected rabbit. Drying a rabies-infected spinal cord for 14 days was the first laboratory technique developed for attenuating an infectious agent for use as a vaccine in man.
- 14. Microscope. While others had already seen and described microorganisms (Antony van Leeuwenhoek, for the first time in 1676), Pasteur determined the true role of microorganisms in nature.
- 15. "Swan-neck" flasks. These flasks, among others of his devising, were used by Pasteur to lay to rest the claims of proponents of spontaneous generation.

In beautifully commemorating Louis Pasteur on the five franc note, France has insured the memory of a noble and selfless genius, whose life and works have blessed all mankind.

Acknowledgement:

I express my gratitude to Professor Emeritus C. B. van Niel, Hopkins Marine Station of Stanford University, who introduced me to the amazing life and works of Pastuer.

REFERENCES

 Michaelis AR: The numismatics of science. Endeavor 34:72-78, 1975.
 Dubos RJ: Louis Pasteur, Free Lance of Science. Boston, Little Brown & Co. 1950.

A-Centennial Celebration: Pasteur and the Modern Era Of Immunization

On July 6, 1885, Louis Pasteur and his colleagues injected the first of 14 daily doses of rabbit spinal cord suspensions containing progressively inactivated rabies virus into 9-year-old Joseph Meister, who had been severely bitten by a rabid dog two days before. This was the beginning of the modern era of immunization, which had been presaged by Edward Jenner nearly 100 years earlier.

Pasteur's decision to treat the child followed four years of intensive research, culminating in the development of a vaccine capable of protecting experimentally challenged rabbits and dogs. His decision was difficult: "The child's death appeared inevitable. I decided not without acute and harrowing anxiety, as may be imagined, to apply to Joseph Meister the method which I had found consistently successful with dogs." The immunization was successful; and the Pasteur rabies immunization procedure was rapidly adopted throughout the world. By 1890, there were rabies treatment centers in Budapest, Madras, Algiers, Bandung, Florence, São Paulo, Warsaw, Shanghai, Tunis, Chicago, New York, and many other places throughout the world.

The basic "Pasteur Treatment," based on brain tissue vaccine with the addition of formaldehyde, is still used in many countries of the world where rabies is prevalent. This treatment still involves immunizations given daily for 14 to 21 days, and it still carries the same risk of neurologic sequelae as in Pasteur's day. In the United States and other developed countries, more potent, safer, but very expensive, cell culture-based rabies vac-

cines are combined with hyperimmune globulin for postexposure treatment. The efficacy of such regimens has been well proven.

Another era in vaccine development is now beginning—an era based on the practical application of recombinant-deoxyribonucleic acid (DNA) technology and other novel genetic manipulations of rabies and other viruses and microorganisms. These new technologies promise even more potent and safer vaccines, as well as lower costs, improved stability, and easier delivery throughout the world to people at risk.

In celebrating the Pasteur centennial, the preeminent role of vaccines in the control of infectious diseases is recognized; as Rene Dubos stated: "Even granted that the antirabies treatment had saved the lives of a few human beings, this would have been only meager return for so much effort. . . . It is on much broader issues that Pasteur's achievements must be judged. He had demonstrated the possibility of investigating by rigorous techniques the infectious diseases caused by invisible, noncultivable viruses; he had shown that their pathogenic potentialities could be modified by various laboratory artifices; he had established beyond doubt that a solid immunity could be brought about without endangering the life or health of the vaccinated person. Thanks to the rabies epic . . . immunization [has] become recognized as a general law of nature. Its importance for the welfare of man and animals is today commonplace, but only the future will reveal its full significance in the realm of human economy."2

REFERENCES

OCTOBER, 1985 625

Cuny H: Louis Pasteur: the man and his theories. Greenwich, Conn, Fawcett Publications, Inc, 1963. p 173.
 Dubos RJ: Louis Pasteur: free lance of science. Boston, Little, Brown and

Dubos RJ: Louis Pasteur: free lance of science. Boston, Little, Brown and Co, 1950, pp 352-353.

Reported by the Division of Viral Diseases, Center for Infectious Diseases, Center for Disease Control.

Put **ZOR**prin (ASPIRIN) Zero-Order Release in your circle of arthritic therapy



ZORprin® provides 800 mg of aspirin in a unique, patented zero-order release delivery system.

Convenient two-tablet, b.i.d. dosage

- Easy-to-remember regimen improves compliance
- 24-hour pain relief

Efficacy comparable to NSAIs

• Helps reduce morning stiffness and nighttime pain

Side effect profile superior to plain aspirin... comparable to NSAIs

- ZORprin® is economical arthritic therapy
- Prescription only
 The ideal method to maintain therapeutic control





Pioneers in medicine for the family

Boots Pharmaceuticals, Inc. 6540 Line Avenue, Po. Box 6750 Shreveport, Louisiana 71106-9989

See brief summary of prescribing information on next page.



following is a brief summary o INDICATIONS AND USE: ZORDring is indicated for the treatment of rheumatoid arthritis and osteoartrints. The safety and efficacy of ZORprin® have not been established in those rheumatoid arthritic patients who are designated by the American Rheumatism Association as Functional Class IV lincapacitated, largely or wholly bedridden or confined to wheelchair little or no self-care.

CONTRAINDI-CATIONS: ZORprin® should not be used in patients known to be hypersensitive to salicylates or in individuals with the syndrome of nasal polyps, angioedema, bronchospastic reactivity to aspirin renal or hepatic insufficiency, hypoprothrombinemia or other bleeding disorders. ZORorin® is not recommended for children under 12 years of age, it is contraindicated in all children with fever accompanied by dehydration. • WARNINGS: ZORprin® should be used with caution when anticoagulants are prescribed concurrently since aspirin may depress the concentration of prothromoin in plasma and increase bleeding time. Large doses of salicylates may have hypoglycemic action and enhance the effect of the oral hypoglycemics, concomitant use therefore is not recommended. However if such use is necessary dosage of the hypoglycemic agent must be reduced. The hypoglycemic action of the salicylates may also necessitate adjustment of the action of the salicy lates that yas helessate sulpsition in the insulin requirements of diabetics. While salicy lates in large doses have a unicosuric effect smaller amounts may reduce the uncosuric effect of unicosuric agents. • USE IN PRECNANCY: Aspirin can cause feral harm when administered to pregnant women. Aspirin interferes with maternal and infant plood clotting and may lengthen the duration of pregnancy and parturition. Aspirin has produced teratogenic effects and increases the incidence of stillbirths and neonatal deaths in animals. If this drug is used during pregnancy, or if the patient becomes pregnant while taking this orug, the patient should be apprised of the potential hazard to the fetus. Aspirin should not be taken during the last a months of pregnancy - PRECAUTIONS. Appropriate precau-tions should be taken in prescribing ZORprin® for patients who are known to be sensitive to aspirin or salicylates. Particular care should be used when prescribing this medication for patients with erosive gastritis, pepticulier, mild diabetes or gout. As with all salicylate drugs, caution should be exercised in prescribing ZORprin® for those patients with bleeding tendencies or those on anticoagulant drugs. Large doses of salicylates should be avoided in patients with clear evidence of carditis. In order to avoid exacerbation of disease or adrenal insufficiency patients who have been on prolonged corticosteroid therapy should have their therapy tapered slowly rather than discontinued abruptly when ZORprin® (aspirin) is made a part of the treatment pro-gram Patients receiving large doses of aspirin and/or prolonged therapy may develop mild salicylate intoxication (salicylism) that may be reversed by reduction in dosage. Salicylates can produce changes in thyroid function tests. Salicylates should be used with caution in patients with severe hepatic damage preexisting hypoprothrombinemia. Vitamin K deficiency and in those undergoing surgery Since aspirin release from ZORprin® is pH dependent, it may change in those conditions where the gastric pH has been increased via antacids, gastric secretion inhibitors or surgical procedures.

ADVERSE REACTIONS: Hematologic Aspirin interferes with oloog clotting Patients with a history of blood coagulation defects or receiving anti-coagulant drugs or with severe anemia should avoid ZQRorinë. Aspirin used chronically may cause a persistent iron deficiency anemia. Castrointestinal: Aspirin may potentiate peptic ulcer and cause stomach distress or heartburn. Aspirin can cause an increase in occult bleeding and in some patients massive gastrointestinal. pleeding. However the greatest release of active drug from ZORprin® is designed to occur in the small intestine over a period of time. This has resulted in less symptomatic gastrointestina side effects. Allergic: Allergic and anaphylactic reactions have been noted when hypersensitive individuals have taken aspirin The most common allergic reaction to aspirin is the induction of bronchospasm with asthma-like symptoms. Other reactions are hives rash, angioedema, as well as rhinitis and nasal polyps. Fata anaphylactic shock while not common, has been reported Central Nervous System: Taken in overdoses, aspirin provides stimulation which may be manifested by tinnitus. Following initial stimulation, depression of the central nervous system may be noted Renal: Aspirin may rarely cause an increase i severity of chronic kidney disease. **Hepatic:** High doses of aspirin have been reported to produce reversible hepatic dysfunction. □ OVERDOSAGE: Overdosage if it occurs, would produce the usual symptoms of salicylism, tinnitus, vertigo, headache, confusion, drowsiness, sweating hyperventilation, vomiting or diarrnea Treatment for mild intoxication emptying the stomach with an emetic, or gastric lavage with 5% sodium bicarbonate. Individuals suffering from severe intoxication should, in adoition have forced diuresis by intravenous infusions of saline and sodium orcarbonate or socium lactate dextrose solution. In extreme cases, hemodialysis or peritoneal dialysis may be required ### HOW SUPPLED: ZORprin® tablets 800 mg. Olain white capsuleshaped tablets. Bottles of 100 tablets.

— CAUTION: Federal Law orohibits dispensing without prescription. Manufactured and distributed by Boats Pharmaceuticals, Inc. Shreveoort, LA 71106 USA

Pioneers in medicine for the family



Boots Pharmaceuticals, Inc. 6540 LINE AVENUE, P.O. BOX 6750 SHREVEPORT, LOUISIANA 71106-9989

Tennessee



PRACTICE OPPORTUNITIES

The Tennessee Physician Placement Service acts as a clearinghouse for private practice physicians seeking a Tennessee community in which to establish a practice, whether solo, partnership, group or salaried position is your preference. This is accomplished by allowing physicians seeking associates and communities seeking a physician to list their opportunity. We then disseminate this information to inquiring physicians. Our service also assists physicians interested in public health, mental health or physicians with a National Health Service Corps obligation. There is no charge for this service.

For further information, please contact:
Physician Placement Service
Tennessee Department of Health and Environment
100 9th Avenue North
Nashville, Tennessee 37219
(615) 741-7308

NORTH AMERICAN TRANSPLANT COORDINATORS ORGANIZATION

Announces An
ORGAN DONATION
Information and Referral
HOTLINE
for Physicians and
Health Care Professionals

DIAL 800/24-DONOR Day or Night

To refer a potential postmortem organ donor or to secure information concerning donation and procurement of organs for transplantation— or call your regional organ procurement program

Satellite and Commercial Medical Clinics

An Update

Because the matter of satellite and commercial medical clinics presents a problem faced by all of us, the Journal is publishing this updated report from the AMA on their proliferation and its effect. The report was adopted by the AMA House of Delegates at the June meeting, and is printed here for your information, since it appears a confrontation over these clinics and their regulation is shaping up.—ED

Board of Trustees Report GG (A-84), Satellite and Commercial Medical Clinics, was adopted by the House of Delegates with a request that a progress report on the development of satellite and commercial medical clinics be presented at the 1985 Annual Meeting. This report, based on continued monitoring of this area by the Board's Committee on Medicolegal Problems, is submitted in response to that request.

Economic and Regulatory Developments

Growth of Freestanding Emergency/Urgent Care Centers

Since Report GG presented the available data concerning the growth and operations of freestanding emergency and primary care centers, the National Association For Ambulatory Care (NAFAC—formerly the National Association of Freestanding Emergency Centers, or NAFEC) has conducted a new study to supplement its initial survey of freestanding centers. This 1984 survey indicates that the original 1982 study, the results of which were reported in Report GG, underestimated the rate of growth in the number of freestanding ambulatory care centers and in the number of patient visits for 1983 and 1984. The original NAFAC study projected 1,100 centers by 1983, with a total of 9,360,000 patient visits. The 1984 study shows that there were 1,200 centers in 1983, with 10 million patient visits. These numbers reflect a 100% increase in the number of centers and a 108% increase in the number of patient visits from 1982. In 1984 there was a 91% increase in the number of freestanding centers

This is AMA Board of Trustees Report Y, submitted to the House of Delegates at its Annual Meeting in June 1985. Past House Action: A-84:131; I-83:56; A-83:39-43; I-82:278,284; A-82:62-64; I-81:46-47; A-81:228.

and a 121% increase in the number of patient visits.

The 1984 NAFAC study projects that the year-to-year growth in the number of freestanding centers will continue—but at sharply decreased percentage levels between 1985 and 1990; i.e., a 30% increase in 1985, a 13% increase in 1987, and a 7.8% increase in 1990. On these assumptions, NAFAC estimates 3.000 centers in operation by the end of 1985, 4,300 by 1987, and 5,500 by 1990. The numbers reflect an expectation of 1,000 more centers in place in 1990 than the original survey projected.

The second NAFAC study also projects the same pattern of leveling off in the growth of patient visits beginning in 1986, one year after the sharp decline in the growth of the number of centers. It estimates a 103% increase in patient visits in 1985, a 20.2% increase in 1987, and a 15.2% increase in 1990. Based on these estimates, NAFAC estimates 45 million patient visits by the end of 1985, 73.1 million by 1987, and 111.7 million by 1990.

Developments Relating to Ownership and Operation

Originally, freestanding ambulatory care centers were owned and operated primarily by physicians. However, the 1984 NAFAC survey indicates a marked increase in hospital and commercial ownership. A Marketing Group, Inc. survey of freestanding outpatient surgery centers found an analogous shift in the ownership of surgicenters. NAFAC also has noted a change in the ownership characteristics of existing ambulatory care facilities. Many corporations that own centers are negotiating to acquire existing facilities in order to establish networks, and some owner/operators are anxious to sell. For example, in the fall of 1984, Humana agreed in principle to purchase the Doctors Officenter Corp., which provides administrative services to the Flashner Medical Partnerships ambulatory care facilities in Illinois and New York.

NAFAC attributes these developments to the high start-up costs and the economies of scale available to networks or chains. As noted in Report GG (A-84), there can be a period of three to four years before a new ambulatory care facility shows a profit. Moreover, financial analysts have determined that these facilities are more expensive to start and that the large operating overhead results in a profit margin smaller than originally thought. The slim profit margin is even smaller for independent facilities that cannot take advantage of the economies of scale. Thus, ambulatory

care facilities may not be economically feasible except as part of a network of health care facilities. These networks are based primarily on hospitals or hospital chains. Hospitals and hospital chains have an advantage over independent ambulatory care facilities because they have the financial resources to keep ambulatory care facilities going during the first years of losses and large capital outlays.

As an alternative or supplement to joining a hospital or hospital chain, a number of ambulatory care facilities are associating with health maintenance organizations (HMOs) and preferred provider organizations (PPOs). HMOs and PPOs gain convenience for their members and an alternative to more expensive emergency room referrals for evening and weekend hours, as well as greater control over patient flow and referrals. The ambulatory care facilities receive additional revenues and a guaranteed cash flow when the contract provides for capitated payments.

The growth in hospital-sponsored freestanding facilities is expected to increase significantly within the next year. The American Medical Association Socioeconomic Monitoring System (SMS) survey for the third quarter of 1984 found that of the physicians surveyed, approximately 33.7% were associated with a hospital that has a satellite ambulatory care facility (ambulatory surgery centers were excluded from the survey). Of those physicians who were not, 26.6% probably will be within a year. Thus, the SMS survey estimates that by the end of 1985, 51.3% of physicians will be associated with at least one hospital that sponsors a satellite ambulatory care facility. The 33.7% of the physicians associated with a hospital that sponsors an ambulatory care facility reported that 75.6% of these were operated by the hospital, 7.8% were leased to a group, and 16.6% were operated through some other arrangement. In addition, 34.3% of these physicians have referred patients to these hospital-sponsored ambulatory care centers.

In addition, the number of satellite ambulatory care facilities operated by multihospital systems continued to grow, according to the 1984 survey of multi-unit health care providers by *Modern Healthcare* magazine. The survey reported 336 freestanding primary and urgent care centers in operation in 1983-108 of them investor-owned (68 reported in 1982), 193 owned by nonprofit secular and religious systems (97 reported in 1982), and 35 owned by public entities (34 reported in 1982). This total represented a 169% increase over 1982. The seven freestanding diagnostic centers reported in the survey were concentrated in the nonprofit secular and religious sector, while the total of 55 occupational health centers and "wellness centers" were primarily organized by investor-owned and nonprofit secular and religious chains.

There has been little change in the most common conditions treated by the freestanding ambulatory care facilities between the first and second NAFAC surveys. The same four types of conditions continue to account for between 15.2% to 23% of patient volume: upper and lower respiratory tract infections; fractures and sprains; lacerations; and ear, nose and throat complaints. NAFAC finds that the most serious injuries treated by the ambulatory care centers are work-related.

Moreover, NAFAC asserts that most centers are attempting to establish an occupation-related patient base as part of their current efforts to diversify services and emphasize episodic and more continuous primary care. Evidence of this diversification strategy is found in the ambulatory care facilities' employment of internists and general practitioners, as well as the establishment of orthopedic services.

Developments Relating to Reimbursement and Regulation

The 1984 NAFAC survey indicates that revenues from third-party assignments of insurance benefits have increased substantially in the last year. However, the ambulatory care delivery system as a whole has avoided involvement with Medicaid patients.

NAFAC has concluded that the cost savings of treatment in ambulatory care centers over hospital emergency rooms warrants separate reimbursement schedules for ambulatory centers, rather than the current classification and reimbursement by third-party payors of ambulatory care centers as physicians' offices. NAFAC has pursued discussions with the Health Care Financing Administration, various state health insurance programs, and private insurers in pursuit of this objective and anticipates that the growth and sophistication of ambulatory care centers together with pressures for cost containment will be of assistance in implementing separate reimbursement schedules.

Attempts by various states to regulate freestanding centers through licensure or by application of certificate of need (CON) provisions currently are in abeyance. In Georgia, physicians affiliated with Humana MedFirst facilities have sued to enjoin enforcement of the state's licensing regulations, claiming that they deprive physicians of rights to free speech, due process, and equal protection guaranteed by the First and Fourteenth Amendments to the U.S. Constitution. The state regulations were withdrawn for review before they were to go into effect in April 1984. In New York, freestanding centers operated by the Flashner Medical Partnership have been sued by the state, alleging that the Flashner centers violated New York law by failing to obtain CON approval. The Flashner group has countersued, claiming denial of due process and equal protection. The regulations promulgated by the Rhode Island Department of Health have not been enforced, although they have been in place for more than four

To a large extent, most state regulatory efforts have been blunted by the freestanding centers' decision to eliminate the word "emergency" from their names. In Ohio, a compromise was reached in September 1984 that applies CON to freestanding emergency facilities. These are defined as facilities that use the word "emergency" in their name, accept life- and limb-threatening conditions or patients transported by ambulance. Connecticut also promulgated regulations for freestanding emergency facilities that were defined to exclude facilities that do not actively solicit emergency medical conditions through their names or advertising.

Despite the present inactivity in state regulatory activity, NAFAC and other observers anticipate that there will be future regulatory attempts that will con-

OCTOBER, 1985 629

cern advertising and promotional practices of ambulatory care centers.

Developments Relating to Voluntary Standards

The move toward voluntary accreditation programs by ambulatory care facilities is a response to state regulatory initiatives, private and professional organizations' proposals for voluntary guidelines, as well as an attempt to improve reimbursement from third-party payors.

There appears to be widespread acceptance throughout the ambulatory care sector that use of the term "emergency" requires maintenance of specific emergency capabilities. The Accreditation Association for Ambulatory Health Care (AAAHC), of which NAFAC is a member, has revised its accreditation manual to include separate standards for emergency centers and for immediate/urgent care centers. Specifically, the AAAHC standards have incorporated the substance of the AMA operational guidelines approved by the House of Delegates (Board of Trustees Report L, A-83) for any ambulatory care facility that "implies by its activities, advertising, or practice that it provides emergency services on a regular basis." These standards are much more stringent than those for immediate/urgent care centers.

NAFAC's Advertising Code of Ethics, promulgated in November 1984, also states that "the term emergency, unless appropriately modified, should be limited to facilities which provide 24 hour per day emergency care and are equipped to evaluate and treat life- or limb-threatening conditions." In fact, NAFAC changed its name in September 1984, from the National Association of Freestanding Emergency Centers (NAFEC) to the National Association for Ambulatory Care (NAFAC) in order "to better lead and represent its constituents." The group claims that close to 100% of its members have dropped the term "emergency."

The Joint Commission on Accreditation of Hospitals (JCAH), in its Ambulatory Health Care Standards Manual, specifies that the chapter on emergency services "applies only to an organization that represents itself in name or in advertising material as a place where emergency medical care is available to the public." These criteria incorporate many of the AMA guidelines. While any ambulatory care facility may apply for JCAH accreditation, the accreditation program is intended primarily for hospital-sponsored and hospital-associated primary care satellites, all ambulatory surgery centers, and emergency care centers. The JCAH does not have separate standards for immediate/urgent care facilities because it views its standards as generically applicable to any organized ambulatory health care organization.

The JCAH has not experienced high utilization of its program for accreditation of ambulatory care facilities, although it expects increased interest as licensure and/or third-party reimbursement is tied to accreditation or "deemed status." Through January 1985, 19 ambulatory health centers have participated in the AAAHC accreditation program and 16 have applied to be surveyed. NAFAC executives believe that the small numbers are due to the fact that the standards were not completed until the summer of 1984, that there are only 15 surveyors available, and that the ac-

creditation process takes from nine to ten months. Nevertheless, NAFAC, like JCAH, expects more accreditation requests as third-party payors increasingly require accreditation or "deemed status," and as part of the efforts to continue to forestall state regulatory initiatives.

The Board will continue to monitor the implementation of voluntary accreditation programs for freestanding ambulatory care facilities and encourage this development as a means of ensuring quality of care and public protection while avoiding governmental intervention that ultimately may prove unnecessary and unduly burdensome.

Legal Developments Concerning Ambulatory Care Facilities

Public Policy Implications of the Growth and Methods of Operation of Ambulatory Care Facilities

As discussed in Board of Trustees Report GG (A-84), there are important concerns for the quality and continuity of care delivered by ambulatory care facilities, consumer protection from misleading promotional activities, assurance of access to care by the elderly and the indigent, and maintenance of the principles of professionalism.

NAFAC, as the representative organization for many of the ambulatory care facilities, has attempted to respond to these concerns. NAFAC asserts that these facilities lend themselves to a standardized quality assurance program in a way not possible in a private practitioner's office; i.e., it is possible to provide peer review of patient records as is done in the hospital setting. In response to questions about the methods for determining the outcome of patient treatment since episodic care is the norm, NAFAC representatives state that many facilities utilize follow-up telephone calls to the patient or to the medical specialist, if a referral was made. NAFAC claims that 50% of the patients in the United States do not have personal physicians. Hospital-associated ambulatory care facilities refer patients back to their personal physicians or to a member of the hospital medical staff. For-profit facilities that are not hospital affiliated, on the other hand, refer patients to a personal physician if the patient's condition is one requiring continuous evaluation. These facilities refer to medical specialists as necessary.

NAFAC has responded to questions regarding consumer protection by promulgating an advertising Code of Ethics in November 1984. The organization has no police power but does have the sanction of terminating a membership of a facility that violates the Code. Issues concerning access to care on the part of the elderly and the indigent appear to remain unresolved. Nationally, only 10% of the ambulatory care facilities accept Medicaid patients, although NAFAC asserts that the percentage of facilities that accept Medicare patients is approximately the same as the percentage of physicians in private practice who accept them.

Acknowledging the questions raised about maintaining professionalism in a commercial setting, NAFAC explains that every physician in private practice makes business decisions every day, and practicing medicine in a for-profit facility should not affect med-

ical decisions and the fiduciary obligation in the physician-patient relationship anymore than in private practice. However, questions remain concerning potential conflicts of interest where professional autonomy within the sphere of medical decision-making is curtailed by authority of lay directors and officers of investor-owned business corporations.

Legal Issues Concerning the Status of Corporate Practice of Medicine and Fee-Splitting Prohibitions

As discussed in Board of Trustees Report GG (A-84), the corporate practice of the learned professions has prompted renewed scrutiny by policymakers, regulatory authorities, and courts. This relatively new phenomenon raises difficult questions of law and public policy. These questions are encountered initially in the interpretation of state licensure statutes and the laws and regulations governing certain aspects of professional practice, such as fee-splitting, advertising, and use of trade names. Transcending these issues of statutory construction are concerns of constitutional proportions—conflicts between state regulatory authority under the police power and the exercise of federal preemptive powers derived from the Commerce Clause of the U.S. Constitution. Of particular significance is the question of whether a state statute or judicial decree banning corporate practice or restricting certain of its activities may be nullified by reason of conflict with federal antitrust policies expressed in the Sherman and Federal Trade Commission Acts.

As set forth in Report GG, some recent judicial decisions and state attorneys general opinions have declared various commercial arrangements invalid under the corporate practice rationale. In the *Pearle Vision Center* case, a California appellate court rejected contentions that the state's proscription of corporate practice, as enforced by the lower court's injunction, contravened the Sherman Antitrust Act and the Commerce Clause of the U.S. Constitution. Finding that the statutes enforced by the lower court constituted direct regulations of the professions by the state, the appellate court held that their enforcement was activity exempted from the Sherman Act by the "state action" doctrine.

More recently, a federal district court dismissed antitrust claims against a state board of dentistry and a state dental association based on allegations that they conspired to promulgate regulations restricting the corporate practice of dentistry and prohibiting various commercial aspects of dental practice. Among these restrictions were prohibitions against employment of dentists by lay-controlled dental laboratories, and coownership or joint operation of such facilities by dentists and nondentists.

Examining the dental board's powers and authority under the state Dental Practice Act, the court concluded that the board was a "state agency" which had adopted and enforced the disputed regulations pursuant to authorization by the legislature and in furtherance of a "clearly articulated and affirmatively expressed" legislative policy to restrict competition and corporate forms of practice in the field of dentistry. Although state statutes did not compel the board to act as it did, it was evident from the powers vested in

the board that the state legislature must have "contemplated" the challenged regulatory activity. The court discerned a clear legislative policy to displace competition in the dental field from provisions of the state's Dental Practice Act and Dental Corporation Act that significantly restricted practice of dentistry in the corporate form, limited the use of trade names, and empowered the board to define "the practice of dentistry." Thus, the statutory scheme of dental regulation, taken as a whole, disclosed a state policy to eliminate "competition" by those persons and corporations not properly authorized to practice dentistry. The court held that the board's execution of this policy, as well as the dental association's actions in advocating compliance with the board's regulations by its members, constituted protected "state action."

Other federal courts, however, have endorsed a much narrower construction of the "state action" immunity, and have held that similar form and scope of practice restrictions of licensure boards, adopted pursuant to analogous regulatory schemes, are subject to Sherman Act scrutiny. These courts require proof that the state legislature explicitly compelled the anticompetitive regulations of subordinate agencies and instrumentalities; it does not suffice to demonstrate that the authority bestowed upon the agency suggests that the legislature contemplated its invocation to restrain trade. Furthermore, they require that the state "actively supervise" the anticompetitive acts of its agencies and instrumentalities. Generally these courts also impose a greater initial burden of proof that the legislature or highest court of the state has laid down a clear declaration of policy on the challenged action.

The federal courts have also taken inconsistent positions with regard to the standards under which actions of private parties may be shielded under the "state action" doctrine. Some federal appellate courts hold that an express state command to engage in the challenged activity is a prerequisite to immunity, while others immunize private conduct that is impliedly "authorized" by the state or its agencies, or necessary to make the state regulatory system work. Although the FTC has recently incorporated the "state action" doctrine for purposes of antitrust adjudication under Section 5 of the Federal Trade Commission Act, preliminary indications are that it will embrace the more restrictive concepts of "state action," particularly as they apply to private conduct. Hopefully, much of the confusion in the application of the doctrine will be resolved in the near future. Two cases—one involving a subordinate governmental entity, and the other the actions of state-regulated private parties—currently are awaiting decision by the U.S. Supreme Court. Many of the fundamental conflicts discussed above are at issue in those cases.

Meanwhile, the FTC has renewed its assault on various "form and scope of practice" restrictions, including many of the kinds enforced in the *Pearle Vision Center* case. The Commission formally has urged several states to eliminate statutory restraints on certain professionals' forms of practice, commercial practices and relationships, advertising, and use of trade names, in connection with their sunset reviews of state laws. More importantly, the Commission recently has proposed a trade regulation rule that would permit

OCTOBER, 1985 631

various forms of corporate and commercial practice in the ophthalmic goods and services field, and would preempt all inconsistent state or local laws, rules, and regulations—even those that constitute "state action."

In its proposed Ophthalmic Practice Rules ("Eyeglasses II"), the FTC intends to nullify four classes of restraints imposed on permissible forms of ophthalmic practice by the states: restrictions on employeremployee or other business relationships between optometrists or opticians and nonprofessional corporations or unlicensed persons; limitations on the number of branch offices an optometrist or optician may operate; restrictions on the practice of optometry on the premises of mercantile establishments; and bans on the practice of optometry under a trade name. The proposed rule declares it an "unfair act or practice" under the FTC Act for any state or local governmental entity to enforce any such provision.

The FTC states that the proposed rule would prevent only state enforcement of total bans on the designated forms of corporate and commercial practice; it would not interfere with the states' ability to regulate specific harmful practices, so long as corporate or commercial practice itself is not directly or indirectly prohibited. Thus, the rule would invalidate laws and regulations that prohibit practitioners from working for, or entering into other business relationships (such as partnerships or franchise agreements) with nonprofessional corporations or unlicensed persons. However, the rule would not interfere with a state's ability to enforce any law, rule, or regulation preventing unlicensed persons from improperly interfering in a practitioner's exercise of professional judgment. Nor would it bar the state from prohibiting compensation arrangements, such as commission payments, that encourage over-prescription.

As noted in Report GG (A-84), the courts have not yet determined specifically whether the FTC may, through promulgation of such trade regulation rules, preempt inconsistent state laws that rise to the level of "state action." However, in a recent opinion, the Supreme Court overturned a nine-year-old decision holding that the authority conferred upon Congress by the Commerce Clause of the U.S. Constitution is subject to limitation where the exercise of that authority would "directly displace the states' freedom to structure integral operations in areas of traditional government functions." In Garcia vs San Antonio Metropolitan Transit Authority, the Supreme Court ruled that the attempt to draw the boundaries of state regulatory immunity in terms of "traditional government functions" is unworkable and inconsistent with established principles of federalism. According to the Court, the states' continued role in the federal system is primarily guaranteed not by any externally imposed limits on the federal commerce power but by the structure of the federal government itself.

The Garcia decision allows the federal government much greater latitude in exercising its Commerce Clause powers to preempt laws enacted by the states pursuant to their police powers in order to promote the health, welfare and safety of their citizens. Presumably, Congress may delegate to an agency such as the FTC such regulatory authority as it could exercise directly. The crucial issue in future challenges to the Commission's efforts to preempt state laws regulating commercial aspects of professional practice, therefore. may be the same issue left unresolved by the courts in prior challenges—whether Congress intended to confer broad preemptive authority upon the FTC in connection with certain amendments designed to expand its jurisdiction. If so, the adoption of the Ophthalmic Practice Rule will signal greater FTC intrusion into the public policy issues raised by commercialism in medicine and a correspondingly progressive erosion of the traditional corporate practice of medicine doctrine.

Conclusion

Freestanding ambulatory care facilities continue to grow at unanticipated rates, notwithstanding doubts regarding their economic viability, and, perhaps, an approaching point of market saturation. Due largely to the significant capital and financial resources required to support successful start-up of these facilities. hospital and commercial sponsorship is increasing while the percentage of physician owners is declining. The growth, ownership characteristics and methods of operation of freestanding centers continue to raise public policy questions related to quality and availability of care, as well as the general commercialization of health care delivery.

In response to state regulatory initiatives, the concerns expressed by professional organizations, and third-party payment requirements, organizations representing ambulatory care facilities have instituted voluntary guidelines and accreditation standards designed to promote public protection and quality of care. Accreditation programs developed by the JCAH and the AAAHC are still in an incipient state of implementation and the response to them on the part of freestanding centers has been slow. The Board believes, however, that these self-regulatory efforts will increase in scope and effectiveness as this form of health care delivery matures and stabilizes.

Growing corporate involvement in this and other emerging delivery systems may result in renewed interest in corporate practice prohibitions on the part of state regulators and legislatures as well as private parties. Given recent Supreme Court and FTC actions, a confrontation between state and federal regulatory authority seems inevitable as the FTC and the federal courts continue to extend federal antitrust policy over the professions, thus intruding further into areas traditionally reserved to the states.

Posttraumatic Acalculous Cholecystitis

GRACE S. ROZYCKI, M.D.; HOBART E. AKIN, M.D.; HENRY S. NELSON, JR., M.D.; and KIMBALL I. MAULL, M.D.

Introduction

Acalculous cholecystitis is a life-threatening biliary tract condition that jeopardizes patients often already compromised by major illness or injury. The clinical situation varies. It has been reported in patients with bacterial sepsis, major burns, or trauma, and patients receiving multiple blood transfusions.1 The process is more fulminant than acute cholecystitis with stones, and because there is a greater likelihood of gangrene and perforation, the mortality is more than twice that of calculous disease. A high index of suspicion in patients at risk, combined with a good history, physical examination, and preoperative diagnostic studies, can lead to timely diagnosis. To reduce mortality, prompt operation is important.

The following case studies emphasize the difficulties in reaching an early diagnosis.

Case Reports

Case 1. A 48-year-old female pedestrian struck by a car suffered multiple injuries, including a severe pelvic fracture. At admission, a positive diagnostic peritoneal lavage led to exploratory celiotomy. All intraabdominal organs, including the gallbladder, were normal, but a massive pelvic retroperitoneal hematoma was noted. A platelet abnormality complicated efforts at hemostasis, and the patient required 150 units of blood. She developed acute renal failure, adult respiratory distress syndrome, pseudomonas pneumonia, and a severe urinary tract infection. Candida sepsis was successfully treated with amphotericin B. On the 53rd hospital day, she developed fever and leukocytosis while still receiving antibiotics. One week later she complained of right upper quadrant pain. Examination demonstrated moderate tenderness to palpation of the right upper quadrant. No masses were palpable.

A sonogram of the right upper quadrant demonstrated sludge in the gallbladder but no stones. A DISIDA scan failed to demonstrate the gallbladder. Serum bilirubin was normal but the alkaline phosphatase and liver enzymes were markedly elevated. At operation pus was encountered upon entering the peritoneal cavity. The gallbladder was gangrenous and free floating within an abscess cavity. Histologic examination confirmed a gangrenous gallbladder with extensive acute in-

flammation but no stones. Bile cultures were negative. The patient ultimately survived and was discharged on the 77th day after injury.

Case 2. Following a motor vehicle crash, a 57-year-old unrestrained male driver was pinned in the car for about an hour prior to extrication. He arrived hypotensive and complained of pain in his chest, abdomen, and right hip. Chest radiograph demonstrated a widened mediastinum and he was also noted to have a right femoral neck fracture. On the basis of a positive diagnostic peritoneal lavage, exploratory celiotomy was done, which showed a ruptured spleen; it was treated by splenorrhaphy. All other intraabdominal organs, including the gallbladder, were normal. The patient subsequently underwent thoracotomy and repair of traumatic disruption of the aorta.

The postoperative course was complicated by adult respiratory distress syndrome, disseminated intravascular coagulopathy, and pseudomonas pneumonia. He also required multiple blood transfusions. Tube feedings were started on the seventh hospital day but were poorly tolerated. The patient developed fever and leukocytosis, hyperbilirubinemia developed, and other liver function tests were markedly abnormal. A hepatitis screen was negative. On the eighth postoperative day a sonogram of the right upper quadrant showed a dilated gallbladder, but the patient denied abdominal pain. Later, a right upper quadrant mass was detected and narrowing of the common bile duct and nonfilling of the gallbladder was noted on endoscopic retrograde cholangiography. Several days elapsed before the patient developed right upper quadrant pain and then spiked a fever to 39°C (102.2°F). On the 19th hospital day, operation confirmed a gangrenous perforated gallbladder with bile peritonitis. The intraoperative cholangiogram was normal. Cultures grew Klebsiella. The histologic study confirmed a gangrenous gallbladder but no calculi were identified.

Case 3. A 33-year-old motorcycle driver involved in a motor vehicle crash suffered severe blunt trauma to his right thorax and abdomen. Multiple fractures including a severe unstable pelvic fracture, right tibial-fibular comminuted compound fracture, and left acetabular fracture were noted. After stabilization, computed tomography disclosed no intraabdominal injury. The fractures were repaired, and his pelvis stabilized by external fixation. Multiple transfusions were required. By the fifth postoperative day the patient developed hyperbilirubinemia and elevated liver function tests. A DISIDA scan failed to show the gallbladder, and at operation an inflamed gallbladder was noted. Cultures showed no growth. The pathology report confirmed acalculous cholecystitis.

Discussion

Acalculous cholecystitis occurs in approximately 10% of patients operated on for *acute* cholecystitis. Several studies confirm higher mor-

OCTOBER, 1985 639

From the Trauma Division, Department of Surgery, University of Tennessee Memorial Research Center and Hospital, Knoxville.

tality for acute acalculous cholecystitis than for calculous cholecystitis,^{2,3} probably due to its occurrence in patients with multisystem trauma and other postoperative patients. Because of this strong association, the clinician cannot place as much weight on the history and physical examination. Branch et al⁴ have shown the physical examination to be unreliable in the posttraumatic obtunded neurosurgical patient.

In our patients, intolerance to tube feedings, fever, and right upper quadrant pain heralded the onset of this disease. These signs and symptoms should alert the clinician to the possibility of acute acalculous cholecystitis. In addition, leukocytosis and elevated liver function tests should suggest the diagnosis. All these patients had several features in common: (1) multisystem trauma, (2) multiple operations, (3) bacterial sepsis, (4) longterm treatment with broad spectrum antibiotics, and (5) multiple transfusions. All of these factors have been cited by other authors as etiologic in this disease. No patient had a history of cholelithiasis. It is important to note that in two patients undergoing previous exploratory celiotomy the gallbladder was normal. Vomiting, right upper quadrant pain, and right upper quadrant tenderness were signs and symptoms common to all.

In a review of the literature, the two most common tests used to aid in the preoperative diagnosis of acute acalculous cholecystitis were the sonogram, and Tc99m iminodiacetic acid chole-

scintigraphy. The sonogram is appropriately the first test done because of its simplicity and non-invasiveness. It may show a *thickened wall* (consistent with edema), *sludge* (echogenic bile), or *dilatation*. Weissmann et al⁵ reported the superiority of Tc^{99m} iminodiacetic acid cholescintigraphy in diagnosing acute acalculous cholecystitis, but other authors such as Shuman and Schneider report variable sensitivity.^{6,7}

In the complicated multisystem trauma patient, signs and symptoms of acute acalculous cholecystitis vary. No single sign, symptom, or radiologic study conclusively establishes the diagnosis. Early diagnosis requires a high index of suspicion in patients with multisystem injuries. Despite the expected high mortality, all of our patients did well and were discharged from the hospital. Once the diagnosis is made, prompt operative intervention offers the best chance for a favorable outcome.

REFERENCES

- 1. Buckley PM, Hunter JM: Acute acalculous cholecystitis following multiple skeletal trauma. *Anaesthesia* 40:23-26, 1985.
- 2. Orlando R, Gleason E, Drezner AD: Acute acalculous cholecystitis in the critically ill patient. *Am J Surg* 145:472-476, 1983.
- 3. Lee AW, Proudfoot WH, Griffen WO: Acalculous cholecystitis. Surg Gynecol Obstet 159:33-35, 1984.
- Branch CL, Albertson DA, Kelly DL: Post-traumatic acalculous cholecystitis on neurosurgical service. *Neurosurgery* 12:98-101, 1983.
 Weissmann HS, Berkowitz E, Fox S, et al: The role of technetium—99m
- Weissmann HS, Berkowitz E, Fox S, et al: The role of technetium—99m iminodiacetic acid (IDA) cholescintigraphy in acute acalculous cholecystitis. *Nucl Med* 180:177-180, 1982.
- 6. Shuman WP, Rogers JV, Rudd TG, et al: Low sensitivity of sonography and cholescintigraphy in acalculous cholecystitis. Am J Radiol 142:531-534, 1984.
- 7. Schneider PB: Acalculous cholecystitis: a case with variable cholescintigram. *J Nucl Med* 25:64-65, 1983.

HELP FOR IMPAIRED PHYSICIANS

Through its Committee on Impaired Physicians, TMA helps doctors who are suffering from alcoholism and drug addiction. The thrust of the program is rehabilitative, not punitive. The Committee is composed of physicians who have special expertise in these areas, some from personal experience. Effective treatment for these illnesses is achieved most easily when the disease is detected early and family, friends, and associates are urged to avoid misguided sympathy which enables the condition to deteriorate.

HELP US TO HELP

Call the TMA Impaired Physician Program (615) 327-2711; outside Nashville call collect. Phone service available around the clock.

GAIL H. GALLEMORE, M.D.; JAMES W. GIBSON, M.D.; and JAYANT B. MEHTA, M.D.

A 2-year-old had intermittent fever, vomiting and increasing lethargy over a two-week period, without cough, weight loss, or history of preceding viral illness. She had received cephalexin (Keflex) for a presumed urinary tract infection one week earlier. The grandmother, whom she had visited recently, had a cough and was hospitalized with pneumonia. An LP showed a protein of 87 mg/dl and a glucose of 8 mg/dl; all white blood cells were mononuclear. Chest x-ray was unremarkable. Axial images of the brain with and without contrast media are shown in Figs. 1 and 2.

The most likely diagnosis:

- (1) Bacterial meningitis
- (2) Posterior fossa tumor
- (3) Reyes syndrome
- (4) Tuberculous meningitis
- (5) Aseptic meningitis

From the Departments of Pediatrics (Dr. Gallemore), Radiology (Dr. Gibson), and Internal Medicine (Dr. Mehta), Quillen-Dishner College of Medicine, East Tennessee State University, Johnson City.

Reprint requests to Department of Pediatrics. Quillen-Dishner College of Medicine, P.O. Box 19840A, Johnson City, TN 37614 (Dr. Gallemore).

Discussion

The CT images reveal moderate communicating hydrocephalus without definite evidence of enhancing basilar exudates. In a 2-year-old with fever and altered mental status, an infectious process must be considered at the top of the differential diagnosis. The duration of the illness makes tuberculous meningitis the most likely inflammatory process. The child's grandmother had tuberculosis and in spite of our patient's negative skin tests, the cerebrospinal fluid (CSF) later grew Mycobacterium tuberculosis; a subsequent PPD was positive. The child was treated with INH, rifampin, and streptomycin, and one year later is normal. The follow-up CT scan eight weeks from the initiation of therapy continued to show moderate hydrocephalus in spite of a shunting procedure and significant clinical improvement.

Therapy was begun for tuberculous meningitis

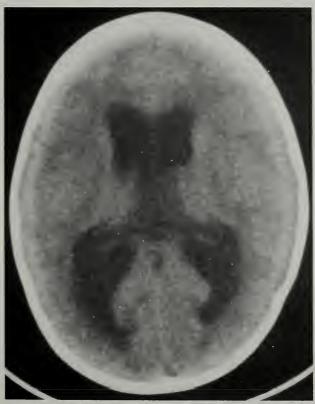


Figure 1. An unenhanced CT scan of the brain showing an enlarged ventricular system.



Figure 2. An enhanced CT scan of the brain showing no basilar exudates but also an enlarged fourth ventricle.

on the basis of her grandmother's diagnosis, and her CT and CSF findings. Cultures of the CSF were negative for both bacteria and virus. The axial images of the brain did not reveal a mass effect to suggest tumor or cerebral edema, with the slit-like ventricles often seen in Reyes syndrome. Fever is not a cardinal symptom of those diagnoses.

The findings seen on the axial images of the brain were quite helpful. In tuberculous meningitis, 85% of the patients will demonstrate hydrocephalus if they have survived three to six weeks. 1 Hydrocephalus is much more common in children than in adults and is most often of the communicating type.² Acutely, the tuberculous exudative changes at the base of the brain, and later the fibrinous adhesions, are both responsible for the obstructive manifestations seen on the CT images. Eighty percent of the patients with tuberculous meningitis will have exudate in the basilar and subarachnoid cisterns, and if these exudates show enhancement, the prognosis worsens.^{2,3} The younger the child, the more likely the exudative changes are to show enhancement; as many as 28% of infants with this disease process will demonstrate evidence of enhancing exudate.4.5

Only 10% of the patients with tuberculous meningitis will develop tuberculomas.² Since these lesions develop early, the CT findings are those of an enhancing nodular lesion. Central necrosis or cyst formation will alter the CT changes, later producing a focal area of decreased attenuation within the central portion of the enhancing lesion.1,4

Arteritis, which can occur as another manifestation of this disease, is not directly detected by CT imaging, though the infarcts that may be produced are detectable, and involve principally the middle cerebral artery distribution in as many as 82% of the cases.3

In conclusion, the diagnosis of tuberculous meningitis has become increasingly more difficult as the incidence of tuberculosis has decreased in our country. Along with this decreased incidence, a decrease in suspicion has made the physician less aware of this particular disease process. This is in contrast to the picture seen in the third world, where tuberculous meningitis is common but CT imaging is not available.

To compound the problem, the laboratory diagnosis is frustratingly nonspecific. Positive skin tests occur in only 25% to 75% of these patients. Further, only two-thirds of the patients will have a positive history of exposure and only one-third have pulmonary infiltrative changes of any kind on chest x-ray. CSF findings can be normal to slightly abnormal, showing some increase in protein, slight decrease in glucose, and lymphocytosis. Cultures of tissues and fluid are positive only 50% of the time, and stains may be positive only 70% of the time.² Thus, strong suspicion of tuberculous meningitis may frequently be the only criteria for beginning therapy which may be life saving.

REFERENCES

- 1. Bhargava S, Gupta AK, Tandon N: Tuberculous meningitis—a CT study. Br J Radiol 55:189-196, 1982. 2. Witrak BJ, Ellis GT: Intracranial tuberculosis: Manifestations on comput-
- erized tomography. South Med J 78:386-392, 1985.

 3. Naheedy MH, Azar-Kia B, Fine M: Radiologic evaluation of tuberculous
- meningitis. Invest Radiol 18:224-229, 1983.
- 4. Weisburg A: Granulomatous disease of the CNS as demonstrated by computerized tomography. Comput Radiol 8:309-317, 1984.

 5. Casselman ES, Hasso AN, Ashwal S, et al: Computed tomography of
- tuberculous meningitis in infants and children. J Comput Assist Tomogr 4:211-

TENNESSEE MEDICAL ASSOCIATION

151ST ANNUAL MEETING April 9-12, 1986 **Opryland Hotel, Nashville**

Chemical Dependency:

A Concept of a Primary Disease With a Singular Natural History

DAVID T. DODD, M.D.

This is the first in a series of articles designed to present a unifying concept of the natural history and primary nature of chemical dependency as a disease. Subsequent articles will detail how this concept has been applied by the TMA Impaired Physician Committee in its operation and oversight of the Impaired Physician Program. It will include an analysis of data accumulated from the application of this concept in the first five years of that program.

Chemical dependency is an identifiable primary disease. As a generic term it encompasses alcoholism and drug addiction and has become a preferred encompassing term. When viewed from the perspective of a primary disease with a natural history, chemical dependency can be seen as the leading cause of health problems and family dysfunction in American society. Extended to include the chemicals caffeine and nicotine, it is seen as consuming the majority of health care dollars. Directly or indirectly, it imposes a major burden upon our legal system at both enforcement and legislative levels.

An improper perspective of alcoholism and drug addiction has kept attention focused at the "hard-core"—"hard-chemical" end of a continuum. The majority of victims of chemical dependency will not be found at the unemployed, uninsured end of this spectrum.

The natural history focuses attention at the left of a continuum of a disease process. It is at this point on the spectrum that preventive education can be most effective, and it is also at this point that early intervention and treatment methods need to be applied. The manifestations of the disease of chemical dependency are caused by the mood-altering chemicals. In the usual cause-host-disease concept it can be reduced to simple equation form:

Converted to loop form the equation then becomes:

In the loop the left-hand side of the equation represents only two states of the host. A premorbid unmanifest state and a postrecovery inactive state. With use, the right-directed arrow indicates that the addictive process will occur and active addiction will become manifest. The left-hand arrow indicates that with abstinence from moodaltering chemicals in treatment, recovery is possible. Relapse reactivates the process toward the right. This concept is a radical departure from the older psychologic bad habit, lack of willpower models. It does not address the multiple ideologic theories attempting to explain why people use mood-altering chemicals in the first place.

A list of mood-altering chemicals pertinent to the above equation would include the sedative-hypnotics (including marijuana and ethyl alcohol), stimulants (amphetamines and cocaine), and analgesics, both natural and synthetic. The addictive nature of these agents is related to their tolerance-inducing qualities in the chemically dependent person. The subject of tolerance is germane to understanding the process of addiction. The hallucinogens are not known to induce tolerance. Also germane to understanding the ad-

Dr. Dodd is medical director of the TMA Impaired Physician Program.

Supported in part by a grant from the Tharp Foundation, Memphis.

dictive process in the chemically dependent host is the concept of tolerance induction, a phenomenon related to etiologic factors thought to be genetically transmitted from generation to generation. Not fully elucidated, this will be the subject of a subsequent paper.

The antithesis of tolerance induction is activation of withdrawal phenomena upon abstinence. These phenomena promote chemicalseeking behavior and repeated use. Withdrawal symptoms aggravate the tendency to relapse in the early stages of recovery.

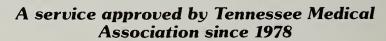
The addictive state is associated with major mood-behavior alterations, predominately of the manic-depressive-paranoid schizoid variety; they were formerly considered primary, but are now considered secondary to the disease state. Individuals usually revert to premorbid status on recovery.

Conclusion: Chemical dependency is an identifiable primary disease that exhibits a natural history. In basic form, the condition has been defined, and the loop form of the recovery-dependency state has been elucidated. Use of moodaltering chemicals in the susceptible host leads to dependency. With abstinence, recovery can be anticipated.

This concept has been useful to the TMA Impaired Physician Program. Future articles will detail more of the disease definition and detail, using data accumulated from the TMA Impaired Physician Program.

CUT the **COST** of your workers' compensation insurance with the Dodson Plan!

15% advance discount applies PLUS dividends averaging 23.5%



With Dodson, you also benefit these ways:

- Yearly dividend paid as earned at year-end, based on cost of claims from all insured.
- Quick, efficient claim handling, often completed within 48 hours.
- New, no-charge payment plans.

Write us or call toll-free for full details:

Insurance provided by

CASUALTY RECIPROCAL EXCHANGE

Member of Dodson Insurance Group P.O. Box 559, Kansas City, MO 64141 800-821-3760

Tighten Up Your Office Protocol

J. KELLEY AVERY, M.D.

Case Report

Early in the fall, a 17-year-old unmarried gravida 0, para 0 went to her Board eligible Ob-Gyn for her annual checkup. Her history included irregular menstrual periods associated with increased cramping. She also complained of slightly painful intercourse and recurrent urinary tract infections. Her birth control method was "the pill." Examination revealed the uterus to be slightly retroverted but otherwise within normal limits, and a change in the birth control pills, along with a lubricant prior to intercourse, were recommended.

The patient returned some two months later for a routine check, which was apparently conducted by the Ob/Gyn's employed office nurse. When several weeks later through a phone call the patient complained of burning on urination along with a yellow discharge, over the phone she was given a prescription for antibiotics and instructed to come to the office if the symptoms persisted.

One week later the patient came to the office complaining of itching and burning, along with continued yellow discharge. The pelvis was too tender to examine. Antibiotics were continued.

The patient was not seen for several months, nor was she heard from until she phoned the physician's office in the early spring stating she had not had a menstrual period in three months. The patient was instructed to come into the office for an examination, and when she was seen four days later, history confirmed no menstrual period for three months, but there were no complaints of nausea or breast tenderness, though she did give a history of one or two missed pills. On examination the pelvis was within normal limits. Treatment was begun with medroxyprogesterone acetate (Provera) for five days, followed by regular ingestion of birth control pills after her menstrual period.

Two weeks later the patient phoned complaining that she had still had no menstrual period, and in addition she complained of abdominal pain localized in the right side that had been there for some two months. The patient was given some pain medication over the phone and instructed to come in for an examination, but instead she repeatedly contacted the office during the next three weeks by telephone, each time complaining of lower abdominal pain, a jelly-like blood tinged discharge, and a low grade fever. Each call was handled by

Dr. Avery is medical director of State Volunteer Mutual Insurance Company.

office personnel, and pain medications were refilled over the telephone.

After approximately three weeks without improvement, the patient returned to the Ob/Gyn's office. Examination revealed the abdomen and pelvis to be exquisitely tender. The patient gave a history of a menstrual period some three weeks earlier, but bleeding continued. The possibility of dilation and curettage was discussed with the patient, but she refused.

The patient returned one week later with the same complaints. Dilation and curettage was again recommended and this time accepted. She was consequently admitted to the hospital the next day, where she underwent a pelvic examination under general endotracheal anesthesia. This examination revealed a uterus that was approximately the size of a 12- to 14-week pregnancy, with the cervix open 1.5 cm. A suction curettage revealed umbilical cord fragments, and reexamination of the uterus revealed small fetal parts and when a uterus compatable in size with approximately four months' gestation was found, the uterus was emptied in a conventional manner.

The patient recovered well from her hospitalization, but filed suit alleging negligence in prescribing medroxyprogesterone before the doctor took steps to determine whether she was pregnant. The case was settled out of court.

Loss Prevention Points

Even with the highly efficient methods of birth control now available, any woman who gives a history of missing a menstrual period must be considered pregnant until proven otherwise. In this case the failure to at least get a pregnancy test was deemed negligent and below an acceptable standard of care.

The error here was perhaps caused by sloppy practice habits. On numerous occasions treatment was prescribed over the phone without giving the patient an appointment to return for an examination. The standard entry in the chart, "return prn," is unacceptable when something goes wrong. "Sloppy" habits on the part of office personnel probably indicate sloppy habits on the part of the physician employer.

EKG of the Month

W. BARTON CAMPBELL, M.D.

A 33-year-old man was admitted to Vanderbilt Hospital after a gunshot wound to the head. He was apneic and unresponsive to stimuli, and had no electroencephalographic activity. An electrocardiogram was obtained. (Fig. 1).

This tracing shows sinus rhythm at a rate of 100/min. Striking J point elevation is present in leads V₂ through V₆. Although epicardial injury due to an inflammatory or ischemic process is a consideration, these changes are nonspecific, and in this situation acute central nervous system injury appears the most likely cause. This heart was removed and transported to St. Thomas Hospital where it was transplanted to the chest of a 31-year-old man with severe cardiomyopathy.

The heart recipient first had shortness of breath and marked edema in December of 1983. His angiographic ejection fraction was 0.3, with a cardiac index of 1.9 L/min/m²; pulmonary vascular resistance was normal. Radionuclide exercise ejection fraction was 0.28, with global hypokinesis. His medications included cutaneous nitroglycerin, bumetanide, hydrochlorothiazide, warfarin, and captopril. He had a prominent S₃ gallop and a grade II systolic murmur of mitral

regurgitation. Blood pressure was 100/60 mm Hg. Cardiac transplantation was carried out without complications, and an electrocardiogram was obtained the next day (Fig. 2).

This tracing shows atrial pacing at a rate of 120/min. The QRS complexes are widened, with a duration of 100 msec. There are prominent rightward and anterior late forces (S wave in standard level I, R wave in V_1) compatible with incomplete right bundle branch block. The atrial pacing spikes are of low amplitude in the lateral precordial leads. The prominent J point elevation noted in Fig. 1 is now absent.

Nine days later a repeat electrocardiogram was obtained with the atrial pulse generator discontinued (Fig. 3).

P waves are not well seen in this tracing, which displays a regular rhythm at a rate of 80/min. Right bundle branch block is now present, with further widening of the QRS complex to 120 msec. Although diminished QRS voltage has been described with cardiac allograft rejection, the QRS voltage in Fig. 3 is increased, and the T waves, which were formerly upright and peaked in the lateral precordial leads, are now deeply inverted. There is also T inversion in standard leads I and aVL.

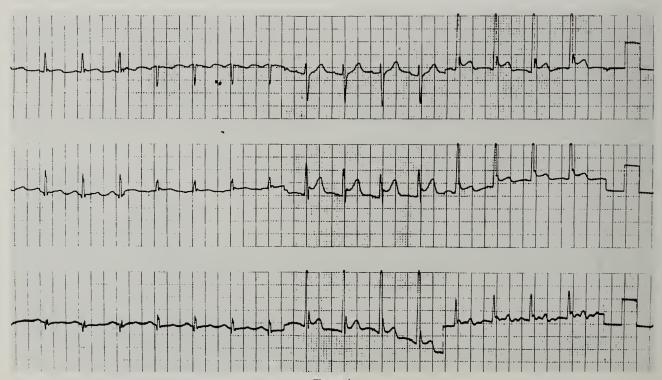


Figure 1

From the Department of Cardiology, St. Thomas Hospital, Box 380, Nashville, TN 37202.

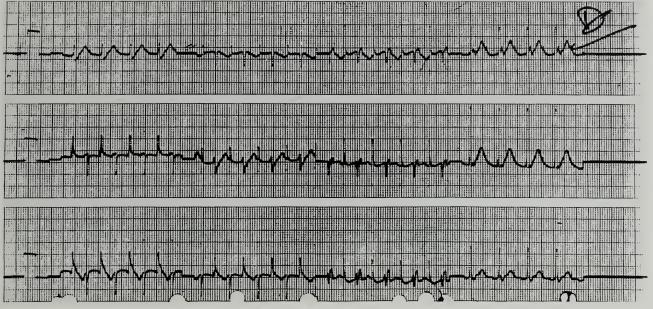


Figure 2

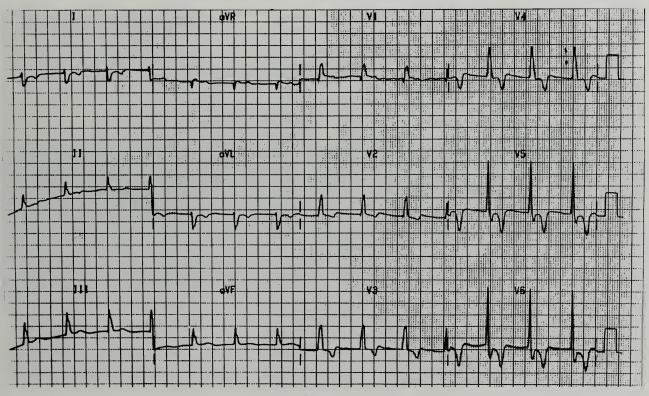


Figure 3

Discussion

An endocardial biopsy showed marked diffuse lymphocytic infiltration, occasional polymorphonuclear leukocytes, and myocardial necrosis. In spite of large doses of rabbit antithymocyte globulin, cyclosporin-A, and steroids, progressive hypotension and intermittent runs of ventricular tachycardia ensued, and cardiac output progressively decreased. The patient died 24

hours after this electrocardiogram.

At necropsy the heart was pale yellow and had significant exudate. There was marked loss of myocardium, with extensive lymphocytic infiltration. Coronary artery disease was not detected.

CONCLUSION: Repolarization changes and right bundle branch block associated with cardiac allograft rejection.

Chlamydia in Tennessee Health Department Clinics

A Preliminary Report

ROBERT H. HUTCHESON, M.D. and GARY L. CONRAD

Chlamydial infections mimic gonorrhea in symptoms and method of transmission. Both organisms cause asymptomatic infections that are capable of producing insidious disease, such as tubal scarring and infertility. The proportion of both symptomatic and asymptomatic persons with Chlamydia, however, varies in incidence depending on many factors, such as geography, type of patient, and others that are not yet clear. These differences make rational treatment or culture recommendations for public health clinics difficult unless we know what kind of experiences our clinic patients are having with Chlamydia. Until recently, accurate Chlamydia tests were not available and answers to such questions could not easily be obtained. With new available tests we decided to document the incidence and prevalence of genital chlamydial and/or gonococcal infections in VD and Prenatal health department clinics to establish management recommendations. Information generated will be used to develop recommendations as to appropriate therapy different patients should receive, and which persons are in greatest need of culture. The optimum treatment for combined infections, for gonorrhea alone, and for Chlamydia alone depend not only on sensitivity of the organism(s) to the antibiotic(s), but also upon side effects, pregnancy, and use effectiveness of the antimicrobial agent. Use effectiveness is a function of such factors as compliance with injections as opposed to compliance with oral medication, and whether the entire treatment can be administered during a single clinic visit.

TABLE 1

Patient	Total	Posi		Posi Gono		Posi	
Group	No.	No.	%	No.	%	No.	%
Men With Discharge	1,178	409	35	543	45	149	12
Asymptomatic Pregnant							
Women	254	35	14	3	1	21	8

In February 1985, several counties began to participate in this *Chlamydia* evaluation, using the Microtrak (Syva Company) Direct Specimen Test. *Chlamydia* testing is being done in conjunction with a routine gonorrhea culture on all men with urethral discharge or urethritis visiting a venereal disease clinic, and on prenatal patients receiving a routine 36-week examination in prenatal clinics.

Results

The tests are being processed by the State Laboratory in Nashville and its branches in Knoxville, Jackson, and Memphis. Completed data collection forms are entered into a desktop computer using dBase II software. The study protocol calls for a total of 3,000 tests to be processed.

When this report was prepared, almost half (1,432) the intended number of the tests had been performed, so that these data have real limitations, and subsequent reports may change the results. If the trend of culture results continues (Table 1), however, *Chlamydia* infections will nearly equal gonorrhea in frequency in VD clin-

From the Tennessee Department of Health and Environment, Nashville.

ics, and exceed gonorrhea in prenatal clinics.

Men with discharge were, of course, expected to be culture positive in the majority of cases. Forty-five percent had gonorrhea alone. Another 35% had Chlamydia without gonorrhea, and 12% were infected with both organisms. These results, if present in all clinic locations, will cause us to treat many more persons with a protocol designed for maximum effectiveness against both organisms.

Prenatal patients were nearly all asymptomatic. These attendees of public health clinics were infected with *Chlamydia* (14%), gonorrhea (1%), or both (21%). Since these women were asymptomatic, their Chlamydia would have usually gone undetected. Gonorrhea would have been found, since such cultures are in the normal prenatal protocol. Treatment of all culture proven gonorrhea patients for both infections would have missed the majority of Chlamydia.

Summary

Preliminary results of an ongoing evaluation of the gonorrhea and Chlamydia infections in health department clinics demonstrate a large proportion of symptomatic men in VD clinics (47%) and asymptomatic pregnant women (22%) are infected with Chlamydia. This suggests that Chlamydia may be more common in these populations than had been recognized.

WILLIAM M. CAMERON M.D.

138 EAST HIGH ST Herpecin-L Lip Balm Sig: Q.h. as needed Px

recurrent herpes labialis

"HERPECIN-L is my treatment of choice for perioral herpes." GP. NY

"HERPECIN-L appears to actually prevent the blisters . . . used soon enough." DDS, MN

"HERPECIN-L®...a conservative approach with low risk/high benefits." MD, FL

"Used at prodromal symptoms . . . blisters never formed . . . remarkable."

"(In clinical trials) . . . response was dramatic. HERPECIN-L . . proven far superior." DDS, PA

"All patients claimed shorter duration . . . at prodromal symptoms . . . HERPECIN-L averted the attacks." MD, AK

OTC. See P.D.R. for information. For samples to make your own clinical evaluation, write: CAMPBELL LABORATORIES, Inc., P.O. BOX 812-MD, FDR STATION, NEW YORK, N.Y.

In Tennessee HERPECIN-L is available at all Eckerd, Revco, Super D. SupeRx Drug Stores and other select pharmacies.

For a Nuclear Cardiology Consultation, Call a Specialist. MIST.



The University of Alabama Medical Center

president's page



CLARENCE R. SANDERS

A Salute to Our Spouses

There is an old adage that goes something like this: "Behind every successful man or woman, there is someone. . . ." For those of us who have chosen the demanding practice of medicine as our life's career, the old saying is infinitely true. I am certain that most of us are blessed with a helpmate who, both by necessity and by choice, willingly and lovingly provides the stabilizing force in our homes. Because the very nature of our work deprives us of the luxury of being able to call our time our own, our spouses are called upon to fulfill the dual roles of father and mother on occasion and, in frequent instances, for extended periods of time. They, on the other hand, can place relatively few demands on our time and, because they can't, their own lives quite often suffer. It is significant, I feel, that most of them rarely complain, but rather carry on in a style that makes us proud. They represent us wherever they go and in whatever they do and, I might add, they do it very well.

It requires a special type of person to fully accept the responsibilities and the liabilities that are inherent in the spouse of a practicing physician. Many of these individuals, I realize, have productive and demanding careers of their own, and this type of situation can also place stress upon such a union. It takes a person who is willing, if and when the need should arise, to sacrifice personal goals in the combined effort to further the professional goals of a physician. By the same token, it is our responsibility, as their spouses, to provide support and encouragement in the achievement of their goals as well. Those of us who are fortunate enough to have such selfless helpmates realize that the support they provide gives a boost to our morale and to our sense of personal well-being that can be obtained from no other source. They provide us with the freedom and the mobility to conduct our professional lives with relatively little interference from the homefront.

So, if you haven't done so lately, I urge each of you to let that special person in your life know that you do appreciate her or him and the many things, both large and small, that are done every day to make your personal and your professional life more pleasant and rewarding. A successful marriage is based upon a relationship wherein both parties are able to lead rich and fulfilling lives, secure in the support and encouragement of their partners. Ours is, as we can all attest, not an easy way of life; so take a little time and say "Thank you."

clarence R Sanders MD

journal of the tennessee medical association

PUBLISHED MONTHLY

DEVOTED TO THE INTERESTS OF THE MEDICAL PROFESSION OF TENNESSEE

OFFICE OF PUBLICATION: 112 LOUISE AVENUE, NASHVILLE, TN 37203

JOHN B. THOMISON, M.D., EDITOR

ADDISON B. SCOVILLE, JR., M.D., ASSOCIATE EDITOR
JEAN WISHNICK, MANAGING EDITOR

Acceptance for mailing at special rate of pastage provided for in Section 1103, Act of October 3, 1917, authorized July 15, 1932

Copyright for protection against republication Journals of the American Medical Association and of other state medical associations may feel free to quote from this Journal whenever they desire merely giving credit to this publication

Address papers, discussions and scientific matter to Jahn B. Thomison, M.D., Editor, P.O. Box 70, Nashville, TN 37202

Address organizational matters to L Hadley Williams, Executive Director, 112 Louise Avenue, Nashville, TN 37203

COMMITTEE ON SCIENTIFIC AFFAIRS

OSCAR M. McCALLUM, M.D., Chairman, Henderson SIDNEY L. BICKNELL, M.D., Jackson CLAUDE H. CROCKETT, JR., M.D., Bristol WINSTON P. CAINE, M.D., Chattanooga TED W. HILL, M.D., Gallatin FRANCIS W. GLUCK, JR., M.D., Nashville JOHN B. THOMISON, M.D., Nashville, Ex-Officio

OCTOBER, 1985

editorials

Chemical Dependency and the Impaired Physician

Evangelist J. E. Todd fulminated in 1882 that "every human soul is worth saving, but what I mean is, that if a choice is to be made, drunkards are about the last class to be taken hold of." That has been the prevailing attitude about alcoholics in nearly every society throughout history. How this attitude has been translated into action has

always depended upon the compassion or lack of it resident in the arresting officer, and the affluence of the culprit, but in general the drunkard has inspired at best derision, and at worst outright hostility. Because of the intractibility of the condition, the patience of frustrated friends, and eventually relations, too, would wear thin and then falter, and the alcoholic would at last die in his cups or the madhouse. The Reverend Mr. Todd was simply voicing such a notion about the alcoholic, a notion moreover that has prevailed until quite recently.

Unlike drunkards, users of opiates were mostly ignored, since they did not become public nuisances, and until the last few decades were also uncommon, because the drugs were both expensive and hard to get. Criminalizing alcohol consumption simply transformed the United States into a nation of scofflaws, since alcohol is too easy to make for any sort of control to be effective, and those who liked to drink it were by and large going to drink it regardless of the law. That was nearly everybody, and drink it they did, in such numbers that prohibition proved unenforceable. It does not appear that we learned anything from the venture. Narcotics are expensive only because they support a monstrous criminal network, and users must turn to crime to support their craving.

For various reasons, some of them a matter of practicality, society distinguishes alcoholism from "drug abuse." The alcoholic is a little sinner, whereas the drug abuser is a big sinner. The social drinker is no sinner at all in almost any circle nowadays, as opposed to the occasional pot smoker, who is.

Until quite recently the medical profession has hidden its head in the sand and hoped the whole problem would, if not go away, at least leave doctors alone. The problem would do neither, however, nor will it ever, since it touches the profession like the rest of society, not only indirectly, but directly as well. To minister to its own afflicted, various state societies, including our own, have instituted impaired physician programs. At the same time, research has turned up facts that contradict society's entrenched attitudes and notions about alcoholism and drug abuse.

In the first place, they are not two separate conditions, but one, and in the second, it is a true disease, not a sin, whatever the church may say to the contrary notwithstanding. The cell makeup in certain individuals is such that a true

chemical dependency quickly develops, and they are hooked—for life. With proper attention and support the situation can be ameliorated, but so far not cured. It has been widely held that alcoholics hate alcohol. Actually, it is the withdrawal they hate, not the alcohol. They may be remorseful about the consequences, but alcoholics like to drink, and management can begin only with a conviction that the consequences outweigh the pleasures.

Chemical dependency is a complex disease, and its management is likewise complex. It keeps the medical director of TMA's Impaired Physician Program, David Dodd, M.D., busy. Beginning with this issue, the *Journal* will carry a series of articles by Dr. Dodd on the subject of chemical dependency, its consequences, and its management. I commend it to your attention.

J.B.T

To a Flying Fortress

There's a Fortress now leaving Calais, Bound for some blue Limey shore, Heavily laden with terrified men, Blood flowing over the floor.

Many a Fokke-Wulf has filled her with lead, Many a Messerschmitt, too. Shot out her hydraulics F----d up her electronics And ----- off the whole @!!XX!! crew.

Bless 'em all, bless 'em all,
The long and the short and the tall.
Bless the instructors who taught us to fly,
Sent us to solo,
And left us to die.
So we're saying goodnight to you all
As back to the barracks we crawl.
There'll be no rotation.
From this G-- d-- station.
So cheer up, my lads: Bless 'em all.

-Olde 8th AF Ballad

I'm not sure who makes such determinations, but I saw a statement not long ago that an individual to be considered a millionaire these days has to have a net worth of at least \$5 million. I'll let the inconsistency of that pass, but it does give some indication of how much money \$20 million was in 1946, the year Istres Army Air Base (pronounced "east" but called "istrus"), home of the 306th Bomb Group (H), closed down. Up until about that time, everything that went overseas

was "surveyed"—written off—but with the new regulations of the "peacetime" army, the Air Corps Supply (ACS) Officer found himself signing for \$20 million worth of B-17s at the going but now ridiculously low price of \$250,000 apiece. You can figure out how many airplanes that was.

As the junior medical officer of the 306th, which at strength had numbered over 5,000 officers and men, I found myself a member of the holding party of 200 left to close down the base. One afternoon I accompanied the ACS Officer to the hard-stand and watched a few men do in less than an hour what the Luftwaffe and the assembled ack-ack units of the Wehrmacht had never been able to accomplish. A few pounds of RDX just forward of the tail assembly effectively dismantled those magnificent craft, all survivors of countless raids over Germany, and their remains were given to the French for scrap, after removal of the matchless Norden bombsights (which were in turn crushed to dust under the treads of a bulldozer).

It should not go unsung that it was just 50 years ago—August, 1935—that the first of those marvelous machines rolled off the assembly lines of the Boeing Aircraft Corporation in Seattle, Washington. It was in the depths of the Great Depression that the B-17 was conceived and nurtured. The naive of the Western world-which was most of it-still believed then that the late Great War had made the world forever safe for democracy, even though there were a few pessimists around, such as Winston Churchill, for instance, who were pointing out that all was not well on the European Continent, and that the maladie was not unlikely to spread. The parturition was remarkable, considering that war had been outlawed just four years earlier, and that in December 1933 President Roosevelt had declared, "The definite policy of the US from now on is one opposed to armed intervention." The B-17 was even then in gestation, and the vindication of Billy Mitchell, who in 1925 had sacrificed his military career for air power, was in the making. Though he died at the age of 57, just a year after the birth of the B-17, once the Flying Fortress was in action in 1942 ex-Col. Mitchell was restored to the service—posthumously, to be sure—with the rank of Major General, of which at the time there were very few. The B-17 must have been a nice going away present for him, and maybe restored the glint to his eyes.

Many a 17 of the 306th limped in tatters into its base at Blackwood, England; so long as even

one of its four great Curtiss Wright engines was functioning it could find its way home. Countless ones did just that. Countless ones also did not. The toll among the splendid Eighth Air Force was appalling, but the shambles they left on the ground beneath them was far worse. The Flying Fortress was a fortress indeed, and their massed power was equal to their assigned task. No one who ever flew in or worked in support of one ever doubted it.

With war's end the 306th flew its airplanes down the Rhone River—often under the bridges—bomb bays laden with Scotch whiskey, to its new home in the Midi at the former French "Randolph Field" outside of Istres, about 60 km west of Marseilles. The Germans had demolished the permanent buildings, so we were a city of tents and pre-fabs (the tents were periodically blown down as the Mistral winds struck). The 17s were stripped down and turned to peaceful missions—first repatriating French resistance people from North Africa, and then, with other units of the 40th Bomb Wing, high altitude photoreconnaissance, photographing from 20,000 feet all of Europe, including Russia, and Africa. Then, finally, after a brief flurry of rearming with the shooting down of a C-47 by Soviet fighters over Czechoslovakia in the summer of 1946, the ignominious end.

Not all of the Flying Fortresses suffered the fate of ours ("ours" meaning the 306th). We thought them big, but they were of course tiny by later standards. A B-17 would fit neatly under the wing of a B-29, which we never saw in the ETO. But with the possible exception of the old gooney-bird (known to the army as the C-47, the navy as the R4D, and civilians as the DC-3), the B-17 was the safest airplane around, and had incredible range. It was therefore used for decades in air-sea rescue operations, and for all I know may still be, refitted with newer more powerful engines.

The only view I have ever had of a whole lot of Europe and Africa was from the bombardier's chair in the 17's plexiglass nose, some of it from illegally—and sometimes almost frighteningly—low altitudes. The view was unparalleled, now that no one was challenging our right of passage. (When they had been, it became for those aloft a sure enough *rite* of passage.) Today's standards and modern technology have of course rendered the B-17 obsolete, and in fact it was essentially so when those at Istres lost their tails. But I doubt that there has ever been or ever will be a ma-

chine of either war or peace more appropriate to and effective in the purposes for which it was constructed.

Just as in medicine it is not drugs, techniques, or machines that save lives, however, so it is not machines but men that win or lose wars, or at least it was until the ICBMs came along. In saluting the B-17, then, I cannot speak about just an airplane; the fighting machine was a union of a dead chunk of metal and plexiglass and the living flesh that made it go. Though I confess to a certain personal bias, I think those magnificent men in their flying machines saved Western Civilization (though not by themselves, of course). I know from what they saved us, all right, but I am not certain at this point for what. Nevertheless, to the B-17, the old Flying Fortress, which though a dead hulk seemed to us to have a life of her own, I say:

Ave atque vale. I sincerely hope we shall never need to see your like again. Nevertheless, taking a lesson from history, I, like your planners and builders, think we shouldn't count on it. In such event, I covet your reincarnation, and so I hope it is even now well along in its gestation.

J.B.T.



Thomas Thetcher's Tombstone

To the Editor:

In 1944 my unit was stationed near Winchester, England, before going over to France. One of the first things we noted was Thomas Thetcher's tombstone. The words were a little different as I remember (from those quoted in your editorial, *J Tenn Med Assoc* 78:524-525, 1985):

Here lies Thomas Thetcher—a Brave Grenadier Who caught his death while drinking a small beer. Soldier beware of his untimely fall When hot drink strong or drink not at all.

I am glad that the Royal Hampshire regiment saw fit to replace his stone.

Waverly S. Green, Jr., M.D. 3-A Doctors Building Bristol, TN 37620



Russell Horner Patterson, Jr., age 69. Died July 20, 1985. Graduate of University of Tennessee College of Medicine. Member of Memphis-Shelby County Medical Society.

James H. Robertson, age 63. Died July 26, 1985. Graduate of University of Tennessee College of Medicine. Member of Consolidated Medical Assembly of West Tennessee.

John D. Young, Jr., age 69. Died June 17, 1985. Graduate of University of Tennessee College of Medicine. Member of Memphis-Shelby County Medical Society.

TMA Members Receive AMA Physician's Recognition Award

Twenty-five TMA members qualified for the AMA Physician's Recognition Award during July 1985

To qualify for the PRA, a minimum of 150 hours of continuing medical education must be earned over a three-year period; 60 of these hours must be Category 1.

This list does not include members who reside in other states. Names of additional PRA recipients will be published as they are received from AMA.

Kenneth H. Abbott, II, M.D., Smithville Robert W. Adams, Jr., M.D., Nashville Thomas K. Ballard, M.D., Jackson Henry B. Brackin, Jr., M.D., Nashville Lloyd R. Broomes, M.D., Madison David A. Chadwick, M.D., Chattanooga Shannon R. Curtis, M.D., Franklin J. Michael Epps, M.D., Jackson Stephen S. Feman, M.D., Nashville Don C. Harting, M.D., Cleveland George L. Holmes, III, M.D., Nashville Samuel E. Hunter, M.D., Memphis Donald E. Lighter, M.D., Knoxville Arvell S. Luttrell, M.D., Knoxville Emmett P. Mobley, Jr., M.D., Paris James L. Nash, M.D., Nashville Charles G. Peerman, Jr., M.D., Nashville Richard W. Quisling, M.D., Nashville Warren G. Reed, M.D., Knoxville Robert C. Reeder, M.D., Memphis Benjamin G. Santos, M.D., Chattanooga Clarence S. Thomas, M.D., Nashville Robert W. Wahl, M.D., Nashville Argil J. Wheelock, M.D., Chattanooga Charles E. White, M.D., Memphis

new members

The JOURNAL takes this opportunity to welcome these new members to the Tennessee Medical Association.

BLOUNT COUNTY MEDICAL SOCIETY *Peter Lee Cason, M.D.*, Maryville

CONSOLIDATED MEDICAL ASSEMBLY OF WEST TENNESSEE

William Keith Williams, M.D., Jackson

HENRY COUNTY MEDICAL SOCIETY James D. Moore, M.D., Paris

McMINN COUNTY MEDICAL SOCIETY Paul Schwiger, M.D., Athens

RUTHERFORD COUNTY MEDICAL SOCIETY John Mitchell Byrnes, M.D., Smyrna

WASHINGTON/UNICOI/JOHNSON COUNTY MEDICAL ASSOCIATION

Forrest Lang, M.D., Johnson City

WILLIAMSON COUNTY MEDICAL SOCIETY Douglas Wayne Orr, M.D., Franklin

WILSON COUNTY MEDICAL SOCIETY Charles Bedford Lanning, Jr., M.D., Lebanon Howard Douglas Woodford, M.D., Lebanon

announcements

CALENDAR OF MEETINGS

NATIONAL

American Society of Clinical Pathologists-

	Las Vegas Hilton
Nov. 3-6	American Association for the Study of Liver
	Disease—Marriott Hotel, Chicago
Nov. 4-9	American Society of Cytology-New York
	Hilton
Nov. 5-8	American Academy of Clinical Anesthesiol-
	ogists—Resorts International Hotel. Atlan-
	tic City, N.J.
Nov. 5-10	American Medical Women's Association—
	Hyatt Union Square. San Francisco
Nov. 7-8	American Pancreatic Association—Ambas-
	sador West Hotel. Chicago
Nov. 7-9	Southern Thoracic Surgical Association—
	Boca Raton Hotel and Club, Boca Raton,
	Fla.
Nov. 7-10	Academy of Psychosomatic Medicine—

Fairmont Hotel, San Francisco

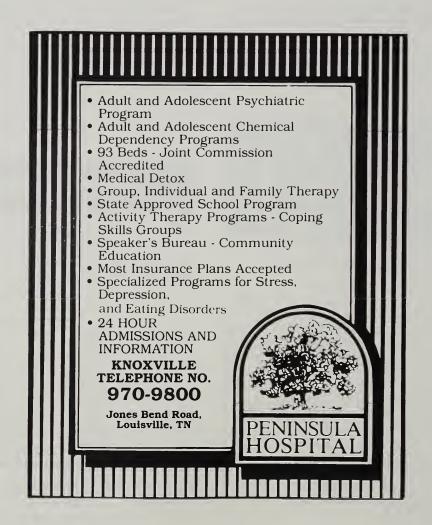
Association for the Advancement of Psychotherapy—Grand Hyatt Hotel, New York

OCTOBER, 1985 661

Nov. 9-10

Nov. 2-8

Nov. 10-14	American College of Angiology—Hyatt at		Hotel, Cambridge, Mass.
	Palmetto Dunes, Hilton Head Island, S.C.	Dec. 4-8	Clinical Allergy and Immunology for the
Nov. 10-15	Association of Military Surgeons of the		Practicing Physician (sponsored by Am Acad
	United States—Hilton Hotel, Anaheim,		of Allergy and Immunology)—Epcot Cen-
	Calif.		ter, Lake Buena Vista, Fla.
Nov. 12-16	American Association for Cancer Educa-	Dec. 5-6	American College of Chemosurgery—Las
	tion—Hyatt Regency, San Francisco		Vegas Hilton
Nov. 17-20	American Physicians Art Association—Or-	Dec. 5-8	American Academy of Psychoanalysis—
	lando. Fla.		Royal Orleans, New Orleans
Nov. 17-20	Southern Medical Association—Wyndham	Dec. 7-12	American Academy of Dermatology—Las
	Hotel, Orlando, Fla.		Vegas
Nov. 17-21	American Public Health Association—	Dec. 12-15	National Kidney Foundation—Louisiana
	Washington, D.C.		Sheraton, New Orleans
Nov. 17-22	Radiological Society of North America—	Dec. 18-22	American Psychoanalytic Association—Hyatt
	McCormick Place, Chicago		Capitol Hill, Washington, D.C.
Nov. 18-21	Interstate Postgraduate Medical Associa-	Dec. 21-Jan. 1	Medical-Legal Seminar (sponsored by Pitts-
	tion—Marriott Hotel, New Orleans		burgh Institute of Legal Medicine)—Kaan-
Nov. 23-26	National Perinatal Association—Sheraton		apali Alii Condominiums, Maui, Hawaii
20 20	World, Orlando, Fla.		apan i in condominano, ivian, i iawan
Nov. 30-Dec. 8			
1.0., 0.0	Smoke Tree Ranch, Palm Springs, Calif.		
Dec. 1-4			STATE
DCC. 134	American Epilepsy Society—Roosevelt Hotel, New York	Nov. 5 0	Towns And we of F. H. Di
Dec. 4-7	· ·	Nov. 5-8	Tennessee Academy of Family Physicians—
DCC. 4-7	Cervical Spine Research Society—Hyatt		Mills Auditorium, Gatlinburg



TMA Membership Information and Statistics— October, 1985

CAROLYN SANDLIN
TMA Membership Department

Dues Information

The membership department will begin October 15, 1985 to bill the members for 1986 dues. The billing will terminate in early March with a delinquent date of March 31. The 1986 dues of the Tennessee Medical Association will remain at \$170. TMA dues were increased from \$80 to \$130 in 1977 which is the last dues increase for the Association. Forty dollars have been earmarked to provide funds for the Student Education Fund (\$25) and the Impaired Physician Program (\$15). A recent study made by the American Medical Association shows that only one state, Missouri, has dues lower than Tennessee.

1986 Dues to the Tennessee Medical Association and the American Medical Association

	TMA	AMA
Active	\$170	\$375
Active (1st year in practice)	85	187
Active (2nd year in practice)	170	281
Resident	40	45
Military	Exempt	250
Student	Exempt	20

All dues are reduced by one-half for physicians new to the associations joining at mid-year (after July 1)

1986 TMA Dues Exempt Membership Categories:

Physicians over age 65, if retired or working part-time (less than 20 hours per week), all physicians over age 70, and those who are disabled.

Other exempt categories of membership are Associate (US Armed Services/Public Health Service). Honorary (special membership/must be voted by the Board of Trustees), and Student (Tennessee medical school student).

1986 AMA Dues Exempt Membership Categories:

Physicians with financial hardship or disability; those over age 70 and fully retired (working 0 hours per week).

All physicians who were previously certified as exempt from dues under former AMA categories will remain exempt under the "grandfather clause."

All membership privileges are extended to the dues exempt membership by both the TMA and the AMA, except that the AMA does not continue publications to the dues exempt membership, but allows the member to subscribe at reduced rates for publications of interest to physicians. Membership cards are sent to members by both TMA and AMA.

All members of the TMA must also be members of the local medical society. Each society certifies the membership of new members to the TMA. The TMA currently bills on behalf of 45 local medical societies across the state: the remaining six societies individually bill their memberships and report TMA and AMA dues to the Tennessee Medical Association.

Statistics

The TMA has 4,864 dues paying members and 793 members who are exempt from dues because of age, retirement at age 65, disability, military service, and student memberships. Our statistics show that 61% of the membership has been certified by the American Specialty Boards.

Figure 1 shows that the percentage of TMA membership with degrees from Tennessee medical schools has decreased to 57% (1983 figures were 59%, and 1984 figures 58%), with 2,473 graduates from the University of Tennessee Center for Health Sciences. 660 graduates from Vanderbilt University School of Medicine, 62 graduates from Meharry Medical College and 2 from Quillen-Dishner East Tennessee State University College of Medicine. Figure 2 lists all of the medical schools in the United States and Canada represented in the TMA membership.

Figure 3 provides a study in age distribution. Physicians in the 35 to 45 year age group comprise 29% of the membership, compared to 30% in 1984, and the 65 and over age group make up 14% of the membership this year, the same as last year. The female membership has risen to 6% (326 members).

Figure 4 gives the number of physicians in listed specialties as indicated by the physician or as listed by the Licensing Board for the Healing Arts for the State of Tennessee.

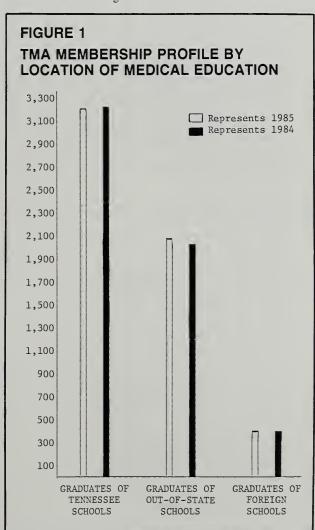
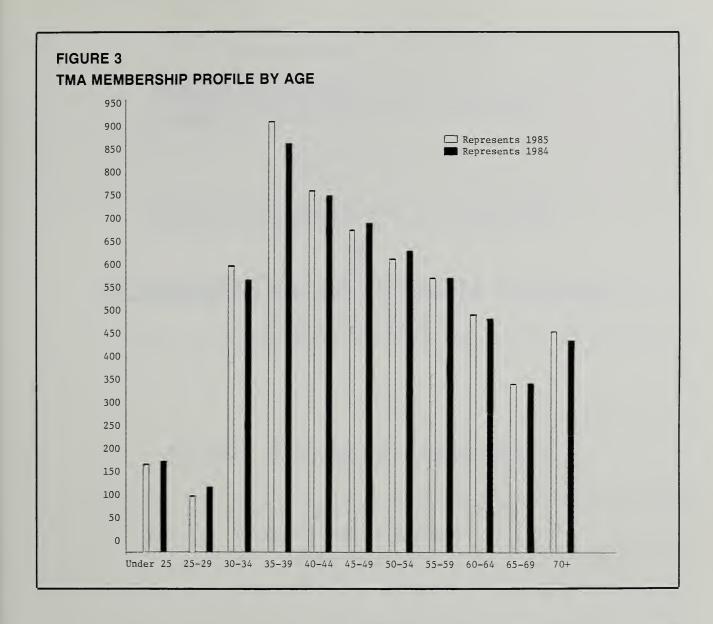


FIGURE 2

MEDICAL SCHOOLS IN UNITED STATES AND CANADA REPRESENTED IN TMA MEMBERSHIP

University of Tennessee/TN	2,473	University of Missouri, Columbia/MO	9
Vanderbilt University/TN	660	State University of New York, Buffalo/NY	9
Tulane University/LA	99	New York Medical College/NY	8
Loma Linda University/CA	84	Yale University/CT	8
Emory University/GA	78	University of Colorado/CO	8
University of Virginia/VA	76	University of Nebraska/NE	7
University of Louisville/KY	75	Medical College of Pennsylvania/PA	7
University of Arkansas/AR	68	Loyola University/IL	7
Duke University/NC	68	Albany Medical College/NY	7
Medical College of Georgia/GA	65	University of Vermont/VT	7
University of Mississippi/MS	63	University of South Florida/FL	7
Meharry Medical College/TN	62	University of California/CA	7
Johns Hopkins University/MD	58	Howard University/DC	6
Medical College of Virginia/VA	55	Dalhousie University/Canada	6
University of Alabama/AL	55	Boston University/MA	6
Harvard Medical School/MA	50	University of Washington/WA	6
Washington University/MO	43	University of South Alabama/AL	6
University of Pennsylvania/PA	43	Creighton University/NE	6
Louisiana State University, New Orleans/LA	42	State University of New York, Syracuse/NY	6
Medical College of South Carolina/SC	40	University of Western Ontario/Canada	5
Bowman Gray School of Medicine/NC	39	University of Utah/UT	5
Indiana University/IN	39	University of Alberta/Canada	5
University of North Carolina/NC	36	Mayo Medical School/MN	5
Ohio State University/OH	32	Mount Sinai School of Medicine/NY	5
University of Illinois/IL	30	University of Texas, San Antonio/TX	5
Northwestern University/IL	30	University of Ottawa/Canada	4
Jefferson Medical College/PA	28	University of Southern California/CA	4
Baylor College of Medicine/TX	28	Louisiana State University, Shreveport/LA	4
University of Michigan/MI	26	University of California, Los Angeles/CA	4
George Washington University/DC	25	Chicago Medical School/IL	3
University of Texas/TX	25	Medical College of Ohio/OH	3
Columbia University/NY	23	Pennsylvania State University/PA	3
University of Cincinnati/OH	22	University of Manitoba/Canada	3
Temple University/PA	21	University of Oregon/OR	3
University of Oklahoma/OK	20	Rush Medical College/IL	3
St. Louis University/MO	20	University of Connecticut/CT	3
Cornell University/NY	20	Southern Illinois Medical School/IL	3
University of Kansas/KS	20	Michigan State University/MI	3
University of Kentucky/KY	20	University of New Mexico/NM	3
State University of New York, Brooklyn/NY	19	University of Toronto/Canada	3
Wayne State University/MI	18	Memorial University of Newfoundland/Canada	2
Georgetown University/DC	18	University of California, Irvine/CA	2
Case Western Reserve University/OH	16	East Tennessee State University/TN	2
University of Rochester/NY	16	New Jersey Medical School/NJ	2
New York University/NY	16	East Virginia Medical School/VA	1
West Virginia University/WV	16	Queens University/Canada	1
University of Florida/FL	16	Albert Einstein College/NY	1
University of Pittsburgh/PA	16	University of Arizona/AZ	1
University of Maryland/MD		•	1
University of Wisconsin/WI	15 15	University of Calgary/Canada	1
•	15	Denver & Gross College/CO	1
University of Texas, Southwestern/TX	14	Laval University/Canada University of Missouri, Kansas City/MO	1
University of Miami/FL	13	· · · · · · · · · · · · · · · · · · ·	1
University of Iowa/IA	12	McMaster University/Canada	1
Pritzker School of Medicine/IL	12	University of Montreal/Canada	1
McGill University/Canada	11	University of North Dakota/ND	1
Medical College of Wisconsin/WI	11	University of Puerto Rico/PR	1
Hahnemann Medical College/PA	11	Texas Tech University/TX	1
Tufts University/MA	9	Brown University/RI Foreign Medical Schools	393
University of Minnesota/MN	3	1 ordigit Woodoal Octools	030



NUMBER OF TMA MEME	BERS IN	LISTED SPECIALTIES*			
nternal Medicine	764	Neurological Surgery	78	Hematology	13
Family Practice	540	Dermatology	74	Pediatric Surgery	12
General Surgery	496	Plastic Surgery	64	General Preventive Med	11
Obstetrics/Gynecology	353	Thoracic Surgery	54	Nuclear Medicine	8
General Practice	302	Neurology	53	Colon & Rectal Surgery	3
Pediatrics	298	Gastroenterology	50	Pediatric Allergy	7
Anesthesiology	258	Gynecology	45	Endocrinology	
Orthopedic Surgery	258	Pulmonary Diseases	39	Otology	-
Radiology	233	Occupational Medicine	33	Physical Med & Rehab	7
Ophthalmology	212	Oncology	31	Aerospace Medicine	į
Psychiatry	191	Cardiovascular Surgery	31	Pediatric Cardiology	;
Pathology	185	Public Health	28	Diabetes	į
Urology	153	Rheumatology	19	Neonatal-Perinatal Med	
Otorhinolaryngology	117	Child Psychiatry	18	Child Neurology	į
Cardiovascular Diseases	102	Nephrology	18	Obstetrics	4
Diagnostic Radiology	96	Therapeutic Radiology	17	Nutrition	2
Emergency Medicine	81	Allergy/Immunology	16	Other	42

Tennessee Medical Association's

Exclusively Approved

DISABILITY INSURANCE & MAJOR HOSPITAL INSURANCE PROGRAMS

Administered By

Smith, Reed, Thompson & Ellis Co.

P. 0. Box 1280 Nashville, Tennessee 37202 Phone 361-6846

Manager
WILLIAM H. ELLIS, C.L.U.

Director of Sales
ROBERT K. ARMSTRONG

Underwritten

SINCE THE PROGRAM'S INCEPTION IN 1942

Ву

Commercial Insurance Company

Newark, New Jersey

NOVEMBER, 1985 VOL. 78, NO. 11

Outpatient Digital Arteriography In a General Community Hospital

ROBERT S. FRANCIS, M.D.

Arteriograms have traditionally been considered invasive, unpleasant procedures which are often arduous for both patient and angiographer. In general, they have been performed only on inpatients and required one or two additional hospital days. With the advent of digital subtraction angiography it was hoped that the vascular system could be studied using intravenous injection of contrast material. This proved to be unrealistic, since the examinations were often of nondiagnostic quality due to factors such as low cardiac output, overlapping blood vessels, and poor patient cooperation, and digital angiography gained a bad reputation. The need for additional definitive arteriograms meant that additional time and monetary costs were incurred.

Beginning in the late 1970s and early 1980s digital subtraction units improved in quality and reliability. The field of view increased to 14 inches thereby approaching that of standard film-screen systems, and as a result several of the more progressive imaging centers began using digital systems to record arteriographic images, often to the

exclusion of standard overhead tube-film changer systems. This change was motivated by several factors.

- Speed. The digital images are immediately available, allowing the angiographer to make procedural decisions about additional views or subselective injections much more quickly than with standard systems. The latter has significant inherent delays, since one must wait for the films to be processed before knowing if additional views are needed.
- Safety. Risk factors in arteriography involve such things as catheter size, length of time the catheter is in the blood vessel, volume of contrast material used, and need for selective injections. All of these factors are minimized by the digital technique. We are routinely using thinwalled 4 and 5 French catheters for all studies instead of the 7 or 8 French catheters utilized in the past. The volume of contrast material used per injection and the total volume used for each examination is routinely four to five times less than that used with standard angiographic examinations. This has obvious benefits in patient comfort and safety. The greater vessel detail obtained in the digital image often eliminates the need for selective injections. When selective catheterization is needed, the small, thin-walled

From the Department of Medical Imaging, West Side Hospital, Nashville.

Reprint requests to Department of Medical Imaging, West Side Hospital, 2221 Murphy Ave., Nashville, TN 37203 (Dr. Francis).

DIGITAL ARTERIOGRAPHY/Francis

catheters are less likely to injure the vessel, thereby decreasing risk of intimal injury or embolization of atheromatous material.

• Comfort. Arteriograms have had a bad reputation among lay people and physicians, often being considered "procedures of last resort" and as such were put off until other less definitive noninterventive procedures were completed. The injection of large volumes of concentrated contrast material into the abdominal aorta, pelvic vessels, or peripheral leg vessels is often painful, requiring strong narcotics before and during the arteriogram. We have been able to completely eliminate this problem using 3:1 or 4:1 dilution of saline to contrast material for digital examinations. Often the patient feels only a mild degree of warmth in the area of injection. Also, the insertion of the catheter into the artery is less painful, since the needle and catheter are significantly smaller than those previously used. These factors combine to make it possible to do arteriograms as outpatient procedures.

Health care delivery is changing rapidly and drastically, with great emphasis being placed on outpatient diagnostic evaluation and short stay outpatient surgical procedures. The days of "going into the hospital for a few tests" are over. With this in mind, we considered that by using the digital angiographic system we could offer a service that was, at the time of its inception at West Side Hospital, unique to Nashville and Middle Tennessee. We began doing outpatient arteriograms by the arterial catheter route in May of 1984 and in the year since we have done 160 of them. Because we are a center for evaluation of hypertension, the majority (49%) were renal arteriograms. Cerebral angiograms comprised 30%, and all other procedures 22%. All 160 patients have had short and long term follow-up, and to date (May 1985) there have been no major complications. There have been two small hematomas—both in severely hypertensive patients; one required hospitalization overnight because he was not able to follow postangiographic instructions.

Procedures: At the time the examination is scheduled we ask that the patient have a liquid breakfast and only liquids by mouth until the examination. We also ask that the patient be accompanied by someone, preferably a family member living with him. After the patient is interviewed upon arrival in the department and informed consent is obtained, the examination is performed (usually without premedication). After the examination the patient is transported to a hospital room designated for outpatient arteriograms, and is monitored by nursing personnel for the next three to four hours. The patient is then discharged with instructions to restrict activity for the remainder of the day, and is provided with an emergency phone number should delayed complications arise.

This service has been well received, and in fact, in several cases, patients have been transferred from other hospitals to have the examinations performed and then returned to their hospital the same day. The diagnostic quality of the examinations has been in general very good and has not required additional standard angiographic procedures.

Though there is ample precedent for doing outpatient arteriography, 1-3 with limited series dating back to the early 1970s,4,5 we believe the risk of complications using standard angiographic systems precludes its use for the routine outpatient evaluation of higher risk patients, particularly those with hypertension. For this reason we did not offer outpatient arteriography until digital angiography equipment was available.

Of secondary importance is the consideration of cost, since the health care dollar seems to be a precious commodity these days. Not only does outpatient angiography eliminate the cost of hospitalization, but digital technology also greatly decreases film and time cost. Savings of \$25,000 to \$50,000 per year in film cost alone can be expected in a busy angiographic service, and time savings allow a greater number of examinations to be done in a given time period.

REFERENCES

Adams PS, Roub LW: Outpatient angiography and interventional radiology: safety and cost benefits. *Radiology* 151:81-82, 1984.
 Wolfel DA, Lovett BP, Ortenburger AI, et al: Outpatient arteriography: its safety and cost effectiveness. *Radiology* 153:363-364, 1984.
 Bunker SR, Cutaia FI, Fritz AL, et al: Femoral intraarterial digital angiography: an outpatient procedure. *Am J Radiol* 141:593-596, 1983.

Giustra PE, Killoran PJ: Outpatient arteriography. J Maine Med Assoc 67:124-125, 1976.

^{5.} Giustra PE, Killoran PJ: Outpatient arteriography at a small community hospital. Radiology 116: 581-583, 1975.

Deterrents to Early Prenatal Care:

A Comparison of Women Who Initiated Prenatal Care During the First and Third Trimesters of Pregnancy

LINDA OXFORD, ACSW; SANDY G. SCHINFELD, MPH; THOMAS E. ELKINS, M.D.; and GEORGE M. RYAN, M.D., MPH

Introduction

Despite increased efforts over the past two decades to make the public more aware of the importance of early and consistent prenatal care in decreasing maternal and perinatal morbidity and mortality, a large percentage of women seen at the Regional Medical Center Clinic for Obstetrics and Gynecology still fail to obtain early regular prenatal care. This study was designed to determine what factors might account for their failure to obtain care before the third trimester and to identify differences between women who seek prenatal care early or late.

Addressing the relationship between prenatal care and pregnancy outcome, Ryan et al¹ reported in 1980 on a survey conducted in the same clinic population. This study demonstrated important relationships between the trimester during which prenatal care was initiated and the patient's age, marital status, and number of previous live births.

In 1982 a statewide prenatal care program in Tennessee was implemented through county health departments because more than one-fourth of pregnant women at that time did not initiate prenatal care before the second trimester of pregnancy; in addition, 20% of the annual births were babies born to teenage mothers who received no prenatal care before the second or third trimester of pregnancy. Despite the repetitive efforts of health care officials over the past two years to foster increased utilization of prenatal

care delivery systems, large numbers of women still fail to take advantage of their services.

This study was undertaken to obtain further practical knowledge about the specific deterrents to early initiation of prenatal care in this population, approximately 80% of whom are black, indigent, and residents of Shelby County. Cultural and socioeconomic factors that have been identified as having a potential influence on delay in seeking prenatal care are attitude toward childbearing, difficulty in arranging transportation, child care and work leave, lack of education, desire to conceal or deny the pregnancy, and the cost of medical care, as well as the forbidding settings and impersonal treatment that may be encountered in clinic facilities.

Methods

To determine the specific deterrents to earlier prenatal care applicable to patients cared for by the Department of Obstetrics and Gynecology of the University of Tennessee College of Medicine, we surveyed patients on their initial prenatal visit, using a questionnaire designed for this study to investigate the patient's knowledge of pregnancy and its risks, her understanding of the availability of clinic services, her estimation of the social factors that may be barriers to prenatal care, and knowledge of the availability of transportation (Appendix). It was administered by a trained interviewer prior to the physician's examination of the patient, and although replies were anonymous, a consent form was signed.

The study group consisted of patients coming for their first prenatal visit during either the first or third trimesters of pregnancy. Patients in their second trimester were excluded in order to make a clear distinction between early and late pre-

From the Division of Ambulatory and Community Medicine. Department of Obstetrics and Gynecology, University of Tennessee College of Medicine, Memphis.

Reprint requests to Department of Obstetrics and Gynecology, University of Michigan Medical School, Ann Arbor, MI 48109 (Dr. Elkins).

TABLE 1

AGE GROUP AND TRIMESTER IN WHICH
PRENATAL CARE WAS INITIATED

TABLE 2

BIRTH ORDER AND TRIMESTER IN WHICH PRENATAL CARE WAS INITIATED

	First T	imester	Third Trimester		
Age Group	No.	%	No.	%	
14-17	5	38.5	8	61.5	
18-21	15	53.6	13	46.4	
22-34	32	59.3	22	40.7	
35-44	2	33.3	4	66.7	
TOTAL	54	53.5	47	46.5	

	First T	rimester	Third T	rimester
Birth Order	No.	%	No.	%
1	23	62.2	14	37.8
2	10	43.5	13	56.5
3	9	52.9	8	47.1
4	6	66.7	3	33.3
5+	6	40.0	9	60.0
TOTAL	54	53.5	47	46.5

sentation. Early prenatal care was defined as care initiated during the first 16 weeks of pregnancy; late prenatal care was that initiated after the 26th week. One hundred one patients, 54 in their first trimester and 47 in their third, were interviewed.

Results

The data were first analyzed to determine demographic factors (Table 1). Girls between 14 and 17 years of age and women over 35 were most likely to delay seeking care until the third trimester, whereas women between the ages of 22 and 34 were more likely to seek care early.

Table 2 compares birth order to the trimester in which prenatal care was instituted. Primiparas were more likely than multiparas to begin prenatal care early, although this difference was not statistically significant. The proportion of patients who initiated prenatal care early tended to decline with successive births.

Patients who did not complete high school were less likely to initiate early prenatal care than were those who completed at least 12 years of education. Lack of desire to become pregnant did not appear to have any impact on the time of initiation of prenatal care. Despite perceptions of when prenatal care should begin, patients frequently did not act upon their perceptions. Forty-two percent of the women who reported that they thought prenatal care should be initiated during the first few weeks of pregnancy nevertheless delayed presenting for their initial prenatal visit until the third trimester of pregnancy. Interestingly, one-third of the women who expressed the opinion that prenatal care should be sought "after a few months" initiated care during the first trimester.

Patients' perceptions of complications that commonly occur during pregnancy are compared with gravidity, educational level, and trimester of

TABLE 3

PATIENT REPORTS OF COMPLICATIONS THAT MAY OCCUR DURING PREGNANCY, COMPARED BY GRAVIDITY,
EDUCATIONAL LEVEL, AND TRIMESTER IN WHICH PRENATAL CARE WAS INITIATED

Primagravida						<u>Multigravida</u>			
	First Tri	mester	Third Tr	imester	First Tri	mester	Third Tr	imester	
Complications	H.S.*or >	< H.S.	H.S. or >	< H.S.	H.S. or $>$	< H.S.	H.S. or $>$	< H.S.	Tota
Low blood count	8	4	4	3	16	10	10	11	66
High blood pressure	11	4	5	4	18	10	11	13	76
"Nerves"	11	5	3	5	16	9	10	9	68
Excessive weight gain	13	5	6	7	18	10	12	15	86
Vaginal bleeding	3	3	1	_	9	7	3	5	31
Headaches	10	5	4	5	14	11	10	10	69
Swelling	13	2	5	1	17	10	9	13	70
Infections and fever	5	2	2	_	7	5	6	8	35
Abdominal cramps	8	5	5	6	10	7	9	10	60
Nausea and vomiting	13	5	6	7	18	13	12	14	88

^{*}High School

TABLE 4

AVERSIVE FACTORS COMPARED BY GRAVIDITY AND TRIMESTER IN WHICH CARE WAS INITIATED

Prima	gravida	Multig	ravida
First Trimester Third Trimester		First Trimester	Third Trimester
No.	No.	No.	No.
_	-	_	1
7	3	3	2
4	5	9	13
_	-	1	1
7	5	18	17
_	_	1	_
1	2	_	_
_	-	1	2
_	1	-	_
2	1	2	1
21	17	35	38
	First Trimester No. - 7 4 - 7 - 1 - 2	First Trimester No.	First Trimester No. Third Trimester No. First Trimester No. - - - 7 3 3 4 5 9 - - 1 7 5 18 - - 1 1 2 - - 1 - - 1 - 2 1 2

initiating prenatal care in Table 3. Women who had completed high school, had previously been pregnant, and who initiated prenatal care in the first trimester were able to identify more potential complications than women in all other categories. Having experienced previous pregnancies appeared to have a much greater effect than educational level on the ability of these patients to identify possible complications. Vaginal bleeding was rarely thought to occur commonly during pregnancy, while nausea and vomiting and excessive weight gain were most frequently identified as common problems. This suggests that the physiology of pregnancy and birth may be an important topic in health education for women in their childbearing years, and may indeed be able

TABLE 5
REASONS FOR DELAY IN SEEKING PRENATAL CARE

Reason Reported	No.	
Saw no reason to come in earlier	7	
Financial problems/cost of care	7	
Fear of medical procedures/personnel	6	
Referred by a private physician	5	
Denied pregnancy	4	
Came in only because of medical problems	4	
Length of wait at clinic a problem	4	
No response/don't know	4	
Transportation problems	3	
New in town	3	
Problems getting appointment	2	
Problems arranging childcare	1	
Earlier care elsewhere	5	
TOTAL	50	

to influence attitudes toward early prenatal care.

High school graduates whose initial visit was during the first trimester would be more likely to consult a doctor if complications occurred. Of patients with less than a high school education who delayed seeking care, more than 30% said they would not consult a doctor even if these symptoms appeared. Forty-seven of the 101 patients interviewed (46.5%) considered the pelvic examination the most aversive factor in going to the doctor or clinic. Thirty-five of these women had previously been pregnant and had had at least an initial prenatal visit with a doctor or clinic. Similarly, 22 of the 31 women who reported "having to wait too long" as the most aversive factor had previous pregnancies and associated medical care. The number of women who reported the pelvic examination and the length of waiting as the most aversive factors in presenting for medical appointments tended to increase with gravidity. Having blood drawn was perceived as being less aversive by women who had previously been pregnant (Table 4).

A variety of reasons were given for delaying the initial visit but no more than 11% gave the same reason (Table 5).

Conclusion

The results of this study indicate that primary deterrents to initiating early prenatal care in our patient population fall into four major categories:

1. Educational factors, including both a lack of knowledge concerning the benefits of prenatal care or the possible complications of pregnancy,

EARLY PRENATAL CARE/Oxford

and a lack of general education.

- 2. Economic factors, including inability to afford payment for medical care in a charity health care delivery system.
 - 3. Fear of or aversion to medical procedures.
- 4. Dissatisfaction with current clinic conditions, including having to wait too long and sensing a negative attitude among clinic personnel.

It is hoped that identification of these specific

deterrents to early prenatal care will result in corresponding changes in the prenatal care delivery system so that more women may be reached at earlier stages in their pregnancies.

REFERENCES

Ryan GM Jr, Sweeney PH, Solola AG: Prenatal care and pregnancy outcome. Am J Obstet Gynecol 137:877-881, 1980.
 Herzog E, Bernstein R: Health Services for Unmarried Mothers. US Dept.

2. Herzog E, Bernstein R: Health Services for Unmarried Mothers. US Dept. of Health, Education and Welfare, Children's Bureau pub no 425, Social and Rehabilitation Service, 1964. See also National Center for Health Statistics: Prenatal Care in the United States, 1969-1975. US Dept of Health, Education and Welfare, DHEW pub no (PHS) 78-1911, Sept 1978.

APPENDIX QUESTIONNAIRE

Age	Gravidity		Parity
Last	menstrual period	1	EDC
jest	ational Age	_ weeks	
7	Yes No		or doctor for care during your previously pregnancy(ies)?
a	a. (If yes) How many children		
		Туре	of Delivery
	Age of Child	Vaginal	Cesarean Section
			
			
			
h	During your last pragnancy	in which month of pre	egnancy did you first go see a doctor?
			regnancy? Yes No
			received during your last pregnancy?
	Excellent Good		
2. <i>A</i>	Are you currently working? Ye	es No	
	If yes, what do you do?		
	Are you presently married or li		
	a. How many people live with		list category, i.e., husband, sister, friend, etc.)
,		to Patient	
		to Tutiont	
		· · · · · · · · · · · · · · · · · · ·	
۵.	Who is the main masses sun	mantin a value famile?	
0. a	b. What kind of work does he/	che do?	
7. \	Who have you talked to the mo	ost about being pregna	ant (i.e., family member, friend, etc.)?
	If "yes", what was the problem		interview (interview in the interview in
	How did you find out about thi		
			4. other 5. don't know
			nsportation)
	a. Did you come with someone		
ť	b. If yes, what relation to patie	nregnancy have you	been seen in a clinic or by a doctor?
	5. 110 w many times during this	pregnancy have you	occir seem in a crime or by a doctor:

11.	Why did you come to the clinic today?					
	1. first pregnancy visit					
	2. referred by another doctor/clinic					
	3. medical problem					
	4. other					
12.	Do any of the following make it hard for you to get to the doctor or to clinic appointments:					
	Yes No					
	a. cost of visit					
	b. finding someone to take care of other children					
	c. getting to and from clinic d. hard to find the time					
	e. paying the bill					
	f. any other reasons you can think of that make it hard					
13	How long have you known you were pregnant?					
14	Did you want to become pregnant? Yes No					
.	a. (If no) were you using some form of birth control when you got pregnant? Yes No					
	b. Was it difficult for you to accept being pregnant? Yes No					
	c. (If yes) can you tell me why it was difficult?					
15.	a. When did you last see a doctor before this pregnancy?					
	b. How would you rate your overall health?					
16.	How often do you think someone should see a doctor each year?					
17.	How soon do you think a woman should see a doctor once she finds out she is pregnant? (use answers as probes, if					
	necessary)					
	1. within the first few weks					
	2. after a few months					
	3. only if she isn't feeling well					
	4. other					
	5. don't know					
18.	How often should a woman see a doctor during her pregnancy?					
	Has anyone you know ever had a serious medical problem while she was pregnant? Yes No					
20.	Which of the following do you think occur commonly in pregnancy? (read the list and check yes or no for each)					
	Yes No					
	Low blood count					
	High blood pressure "Nerves"					
	Weight gain Vaginal bleeding					
	Headaches					
	Swelling					
	Infection and fever					
	Abdominal cramps					
	Nausea and vomiting					
21.	Have you ever had any of these symptoms? Yes No					
	Would any of these symptoms make you come to the clinic? Yes No					
	In your opinion, what is the worst thing about coming to see the doctor?					
	a. paying the bill					
	b. having blood drawn					
	c. waiting too long					
	d. seeing a different doctor each time					
	e. other					
	Do any of these things ever prevent you from coming to see the doctor?					
25.	(If new) what do you expect a doctor to do on your first clinic visit in pregnancy?					
26.	If patient is new and in second and third trimester, why did you wait until now to come to the clinic for the first time?					
An	y other comments or questions?					

The Answer: Patient Care

THOMAS G. PETERS, M.D.

We all join in recognizing the milestone of your medical school graduation today. As you commence your new career, you will soon face a number of difficult situations of our society. The principal question is: Can you successfully confront them? In fact, the College of Medicine Class of 1985 has sufficient strength and talents to do so. You have experienced rigorous preparation, real world teaching, and hard work. All of these endow you with special abilities to meet many specific conditions, a few of which we will mention: the rapid expansion of knowledge, regulated medicine, the ill-informed population, and malpractice liability.

First, keeping abreast of both general and specific advances in medicine can be a distinct problem to the practicing physician determined to continue using scientific methods in clinical medicine. The Journal of the American Medical Association, May 10th issue this year, had among the topics on its title page: "Another Artificial Heart Receives FDA Approval," "The Final Epidemic: Nuclear and Population Explosions," "Sudden, Unexplained Nocturnal Death," "Penetrating Abdominal Wounds," and "Hospital Ethics Committees." These subjects, in this widely distributed journal, relate to sophisticated biomedical engineering, ethics in medicine, destruction of the human race, and patient care problems of both common and unusual circumstance. No matter what your specialty, these are topics that your patients, family, and neighbors expect you to know something about. That is a tall order. Add to it the need to keep pace within a particular specialty, and there is then too much to learn in too little time. The challenge is to comfortably maintain intellectual competence in this information explosion. Meeting this challenge will be easily handled in the attempt to answer a question that will arise daily: How can I better solve this patient care problem? Pursuit of information will, therefore, come to be a pleasure, since it will be immediately applicable to your patients. Understanding of the medical literature will improve as you mature, and mastering several intellectual aspects of medicine will make study fun.

Second, the increasing regulation of medical care is a problem we all face in clinical medicine. Regulation alters our employment choices, our income potential, and our methods of health care delivery. One hears too seldom of the virtues of constrained, fiscally sound, compassionately regulated medical care. Increasing organization may, in fact, actually increase your choices regarding types of practice, and may bring unparalleled opportunities. Certainly, working for a good outcome in patient care can be successfully accomplished in a variety of settings, including federal medical services and group or corporate practices, as well as other places. The challenge is to use regulations to the advantage of your patient and the practice of medicine. The key to success in highly structured and regulated systems is to be knowledgeable about the confines within which one may operate. Changes within systems can then be directed to favor patient care and medical practice. Your being active in the decisions of organizations will give you a platform from which to do this, as well as a window from which you can see not only the reasons for regulation, but also-most importantly—the ways to develop and obtain the care your patients need.

Third, the health care consumer is too often misguided, which can present tremendous difficulties to the doctor and others. Charlatans and incompetents, presented to the public by seemingly respectable media, itself duped by the ruse, are always with us. A recent authoritative survey

From the Department of Surgery, University of Tennessee Center for the Health Sciences, Memphis.

Presented at the Convocation for the Graduating Class, University of Tennessee College of Medicine, Memphis, June 8, 1985.

Reprint requests to Department of Surgery, UTCHS, 956 Court Ave., Suite G212, Memphis, TN 38163 (Dr. Peters).

quoted in the Wall Street Journal disclosed inconsistent or unreliable information in numerous health related articles and publications written for the layman.¹ Smart patients readily understand trickery. Unfortunately, the gullible do not, and can damage not only themselves, but also their neighbors and our profession.

In addition, a large problem in consumerrelated health care information is the zealot. In the zeal to promote, expand, and proselytize, zealots usually have a single cause that they consider inarguably correct, no matter what the circumstance. Do cultists really know that a high fiber diet will prevent carcinoma of the colon? Do movie stars have exercise programs soundly based upon kinesthesiology? Do those attempting to stop research using certain animal species really have a suitable alternative, applicable to mankind? Their testimony will never suffice. These people have only a single passion, and the consequences of adopting their course are seldom, if ever, adequately documented and publicly criticized.

Our challenge, therefore, is to guide our patients away from the zeal of such laymen, and, on occasion, certain physicians as well. This may at first appear a disheartening and frustrating task. Nonetheless, the doctor who shows an active interest in and compassion for the patient is going to win both the mind and the heart when the need to care for the ill is genuine. One can never attempt to win zealots over to a reasonable course; therefore, it is probably best to avoid confronting such people. Concentrate, rather, on the obvious thing that doctors do best: patient care. Attention to the sick will guide patients away from the charlatan and fake.

A fourth situation we must face is the problem of professional liability. No other professional must carry liability insurance to the extent that the physician must, and routinely pass the cost on to the patient. Currently, the malpractice premium for neurosurgeons on Long Island averages \$98,000 per year, while the family physician in that location pays \$11,000 annually.2 Thankfully, these premiums do not reflect the national average, nor are they common, but they speak to an enormous liability that physicians face. One cannot, and should not, hold attorneys solely responsible for this shameful malpractice atmosphere. The incompetent physician allowed by our own organizations to continue in practice surely places some blame upon our profession. Society, too, must bear a large responsibility, and ultimately the cost, of this litigious atmosphere. The challenge is to maintain a cost-effective, sound medical practice, while averting risk for liability.

Ways to do this have been addressed by some of the best medical and legal minds of our day, and almost all experts agree that a partial answer lies in communication with patients. Patients understand that mistakes are made by everyone, and that doctors are imperfect. Learning to promptly recognize error, accept it, and reverse any untoward aspects of it will be readily understood by even the most argumentative person. One should never try to hide or falsify what may have transpired. Diligent attention to the patient in all aspects of care and honest communication with the family are mainstays that can keep nearly every competent physician out of the courtroom.

The features we have touched upon will be a part of your lives each day. The questions may not echo as loudly as right now, but nonetheless they are questions that you will face and deal with effectively. In each case, the answer is about the same: Position yourself to care for the patient. Do so intellectually and organizationally; use simple, common, truthful communication with your patients. Grow to do this in a fashion that makes you comfortable with all of your day-to-day tasks, and competent in any course you choose.

A few more comments. The best advice given to many young people when they begin a career is to take all that you can from one place, in this case the University of Tennessee, remembering both the good and bad aspects of your sojourn here. The good, obviously, relate to the legion of experiences you have had both in the college and in your personal lives. Positive experiences and fond memories will sustain you. Don't forget, either, that which you perceive to have been a bad experience. Learn not to be disparaging toward the university because you've had bad experiences; bad experiences occur everywhere. Rather, learn from them so that you do not repeat them or allow them to be repeated when leadership finally rests in your hands.

Remember to hang your diploma on the wall where others can see it. Be proud of that sheep-skin and be proud of your educational heritage. The reputation that precedes you will be enhanced by allowing others to see where it was you learned the skills that you use to give service.

PATIENT CARE/Peters

As physicians, we have a window to the world of mankind that few other individuals ever share. In fact, the envy that is held for physicians probably isn't for their intellect or their stature or their income. Knowledgeable people envy us because of the way we are able to view mankind. We see the best and worst of people, and share in secrets never divulged to anyone else. But don't let this window to the world be one just for looking out. When appropriate, let your patients and others look into your world. A fascinating glimpse of reality is gained by laymen who witness our work and our lives.

Finally, have a good time practicing medicine. The practice of medicine is fun. It is the culmination of intellectual exercise, personal experience, and lots of work into a relationship with your fellow man that is positive in almost all of its aspects. As Dr. Gerald Plitman said to the Class of 1982, "Come on in, the water's fine."

REFERENCES

- Watkins LM: Big growth in health publications might be bad for readers' health. Wall Street Journal, April 24, 1985, p 35.
 Crane M: Malpractice: will the premium hikes pull you under? Medical Economics for Surgeons, May 1985, pp 25-29.
 Plitman GI: Views of an LMD. J Tenn Med Assoc 75:802-805, 1982.

HELP FOR IMPAIRED PHYSICIANS

Through its Committee on Impaired Physicians, TMA helps doctors who are suffering from alcoholism and drug addiction. The thrust of the program is rehabilitative, not punitive. The Committee is composed of physicians who have special expertise in these areas, some from personal experience. Effective treatment for these illnesses is achieved most easily when the disease is detected early and family, friends, and associates are urged to avoid misguided sympathy which enables the condition to deteriorate.

HELP US TO HELP

Call the TMA Impaired Physician Program (615) 327-2711; outside Nashville call collect. Phone service available around the clock.

Update on Peptic Ulcer Disease

CHARLES E. KOSSMANN, M.D., Editor

SUSAN A. SOUTHER, M.D.

Resident Physician

A 29-year-old white man was admitted to the Memphis Regional Medical Center with the chief complaint of vomiting blood. The night before admission he vomited approximately one cupful of coffee-colored material; and several hours later had one hard stool. There was no associated abdominal pain, although there was a two-month history of vague "indigestion" described primarily as a burning sensation in the mid-epigastrium, which was relieved by antacids and was also occasionally relieved by ingestion of food. He denied any other relationship of it to meals, but he was occasionally awakened during the night by the discomfort. He denied previous hematemesis, melena, hematochezia, or loss of weight.

The patient smoked a pipe, and drank approximately two six-packs of beer per weekend. Past medical history, family history, and review of systems were not contributory. He was on no medication except for an occasional aspirin for headache.

On admission the patient was afebrile, with a pulse rate of 96/min supine, 120/min sitting. Respiratory rate was 18/min and regular; blood pressure was 124/82 mm Hg supine, 100/80 mm Hg sitting. He was well developed and nourished and in no acute distress, and was alert and well oriented. Except for tachycardia the cardiovascular examination was negative. Peripheral pulses were easily palpable and symmetrical. His abdomen was soft, without distention, and only minimally tender in the epigastrium, without rebound. There was no palpable organomegaly. Bowel sounds were hyperactive, and rectal examination showed a tarry stool. The nasogastric aspirate consisted of a small amount of "coffee grounds" fluid. After lavage with approximately 300 ml of saline, the return was clear.

The hematocrit was 37% on admission, dropped to 35% with hydration, and therafter remained stable. The red cell indices, white blood cell count, and phase platelet count were normal, and the prothrombin time and partial thromboplastin time were within normal limits, as were the remainder of the routine laboratory examinations. Endoscopy on the day after admission revealed a 1 cm ulcer in the duodenal bulb, which was not bleeding.

The patient was started on cimetidine, 300 mg every six hours, with rapid resolution of the vague indigestion. When he was seen in the clinic approximately four weeks after discharge, he was complaining again of some vague indigestion, but an upper GI series displayed no evidence of an active ulcer.

The final diagnosis was duodenal ulcer.

From the Department of Medicine, University of Tennessee, 951 Court Ave., Memphis, TN 38163.

Presented Feb. 20, 1985.

LAWRENCE W. SCHMIDT, M.D. Clin. Asst. Prof. of Medicine, Gastroenterology

Today's topic is possibly the most difficult one I have been asked to discuss. With the introduction of fiberoptic endoscopes, discovery of histamine-2 receptor antagonists, and research into acid secretion and mucosal protection, ulcer diagnosis and management have entered a new era. A gargantuan volume of data pertaining to ulcer disease—epidemiology, pathophysiology and management—has flooded the medical journals. In fact, several excellent reference texts¹⁻⁴ have been written in the last four years. For this reason, summarizing peptic ulcer disease in 40 minutes is an impossible task; therefore, I will attempt to present only a brief review of recent advances in this common clinical entity.

To understand the impact of peptic ulcer on American life, a cursory look at epidemiology is important. We then will evaluate the environmental factors known to influence the occurrence of the disease. Finally, we will attempt to review the mechanism of acid and pepsin secretion and the defensive factors of mucosal protection in order to establish, in a logical fashion, the management of peptic ulcer.

I thought it an interesting point of the case presentation today that an upper GI series was done four weeks after treatment was begun. It brought out an important point. The patient still complained of pain a month after therapy, but the ulcer had healed. As we progress we will see that a certain percentage of patients with ulcers don't have pain; others continue to have pain even though the ulcer has healed.

Definition and Incidence

First of all, I think we should define the terms we will use. Our topic is peptic ulcer disease. We will not discuss drug-induced or stress erosions. Histologically, an ulcer extends through the mus-

cularis mucosae into the submucosa and heals by granulation. Erosions, on the other hand, involve only the mucosa, do not invade the submucosa, and heal by epithelialization. In the United States there are 350,000 new cases of peptic ulcer disease diagnosed annually and 4 million Americans have active ulcers at any one time.³ It is twice as frequent in men as in women, but the incidence rate for women is increasing. With gastric ulcers the sexual ratio is about equal. Overall, there are about four times as many duodenal ulcers as gastric ulcers. My remarks will be limited largely to duodenal ulcer disease.

What has happened to the frequency of ulcers since 1970? The incidence, to the best of our estimation, is decreasing, though the only means we have to describe the epidemiology is the hospitalization rate. To formulate with some degree of accuracy the prevalence and incidence, it is necessary to consider only those patients who come into a hospital in whom ulcerative disease has been proven.

The hospitalization rate for peptic ulcer began to decrease many years before the advent of histamine-2 (H-2) antagonists (cimetidine and ranitidine). Between 1970 and 1978, the apparent decrease in the rate of hospitalization of ulcer patients was 43%.5 This drop was seen primarily in admissions for uncomplicated cases. Although admissions for hemorrhage fell to some degree, the rate of admissions for perforations remained constant. This leads one to believe that the 43% decrease may actually be due to a tendency not to hospitalize uncomplicated cases. Also, the introduction of fiberoptic endoscopy may have caused many patients who previously would have been diagnosed as ulcer to now be diagnosed as gastritis or stress erosions.

The decrease in hospitalization rate is only for duodenal ulcer. The rate of admissions for both complicated and uncomplicated gastric ulcers has remained stable.

Predisposing Associations

In discussing peptic ulcer disease with physicians, I have discovered that many have strong convictions about predisposing factors. Many formerly accepted dietary and psychological associations have been recently disproven or seriously questioned.

Probably the most significant factor of the Western lifestyle that has predisposed to peptic ulcer is cigarette smoking. Many articles during the last 40 years, including a study in which the

University of Tennessee participated,⁶ have linked cigarette smoking to peptic ulcer. Smoking more than ten cigarettes per day increases the prevalence of duodenal and gastric ulcer twofold, and the prevalence increases linearly with the number of cigarettes smoked per day. Further, healing is slowed and the recurrence rate is increased by habitual use of cigarettes. Among male smoking ulcer patients the death rate from the disease is twice that of nonsmoking ulcer patients. Smoking affects the stomach and duodenum in many ways. It reduces pyloric sphincter pressure, increases duodenal reflux, increases gastric emptying of acid, lowers duodenal pH, and inhibits pancreatic bicarbonate secretion.

Regular use of aspirin as a cause of ulcers is known especially to our rheumatologic colleagues. In a recent study, with reduction of recurrence of myocardial infarction as its goal, as few as three to four aspirin tablets per day (0.9 to 1.2 gm) for three years increased the frequency of gastric ulcers sixfold.7 To the best of my knowledge there are no data to show an increased incidence of duodenal ulcers due to aspirin use. Aspirin may only increase the bleeding rate in patients with duodenal ulcer, but it definitely is associated with an increased occurrence of gastric ulcer. At the high dose end of this spectrum, it is said that 3 gm daily for three months will produce gastric ulcers in 25% of patients so treated.8

Controversial for a long time is the association of the use of steroids in large doses. It is now generally believed that steroids taken for over a month or in a total dose of more than 1 gm of prednisone equivalent will increase the incidence of peptic ulcers. The mechanisms by which corticosteroids and aspirin cause ulcers is thought to be through their ability to block prostaglandin synthesis. The natural assumption is that all nonsteroidal anti-inflammatory agents also are ulcerogenic, but though they cause gastric erosions, there are no data showing that they cause ulcers.

Most gastroenterologists believe that coffee and caffeine-containing carbonated beverages probably do not cause ulcers, although it is known that coffee, with or without caffeine, and carbonated soft drinks do stimulate acid secretion. There is some evidence that if you consumed large amounts of coffee when you were in college, 20 years later you will have an above average likelihood of ulcer disease.^{2,3} Despite these considerations, I don't tell my patients to stop drinking carbonated beverages or coffee, unless they are

a 10 to 12 cup-a-day "addict," since the evidence for the adverse relationship is equivocal.

Alcohol does not cause ulcers, contrary to popular opinion, although it may cause acute gastric erosions. Alcoholic cirrhosis, however, is associated with an increased incidence of peptic ulcer disease.²

The only diet that seems to affect the incidence of ulcer is a high-fiber diet. Increased dietary fiber may diminish the frequency of duodenal ulcers, and as a bonus, possibly cancer of the colon. Patients often state that they had an ulcer ten years ago, at which time a bland diet was prescribed. It was not palatable but they believed it helped them. Now they want to know if they need to stay off chili powder, pizzas, coffee, and the like. The answer is no. There is no evidence that a bland diet heals ulcers. It is often difficult to convince the ulcer patient that a bland diet is not necessary. Usually I advise my patients to eat whatever they like unless it causes epigastric pain.

Although it is popular to associate psychologic stress with the occurrence and exacerbaton of ulcers, fully acceptable evidence is lacking. It is known that an emotional upset may increase gastric acid secretion, but it has not been clearly proven that it results in ulcer disease.³

Genetic Associations

There are many different genetic factors influencing the occurrence of peptic ulcers,^{2.3} therefore, peptic ulcer disease is truly heterogeneous. First of all, it is hereditary. First degree relatives of patients with an ulcer have a threefold increased incidence of ulcers. The genetic predisposition is site specific. This genetic separation of gastric and duodenal ulcers lends support to the theory that peptic ulcer is a syndrome rather than a single disease.

There are several known genetic factors and syndromes that affect or include the occurrence of ulcers. The rare genetic syndromes of systemic mastocytosis, Zollinger-Ellison syndrome (gastrinoma), and the tremor-nystagmus-ulcer syndrome are all associated with ulcers. Patients with blood group O and individuals who are unable to secrete ABO blood group antigens into their saliva or gastric juice (nonsecretors) have an increased incidence of duodenal ulcers. Subjects in blood group O display a 1.3 times increase in incidence of duodenal ulcers; nonsecretor status increases the incidence by 1.5 times. Several other genetic traits, such as alpha-1-antitrypsin defi-

ciency, G-6-PD deficiency, and the presence of certain HLA antigens, are also associated with ulcer disease. One of the most extensively studied genetic factors affecting the incidence of ulcer is the elevation of serum pepsinogen I (hyperpepsinogen I). Elevation of this enzyme probably identifies patients with increased parietal cell mass who are, therefore, predisposed to an increased occurrence of the disease. Hyperpepsinogen I is found in about 50% of ulcer patients, and appears to be an autosomal dominant trait. Approximately 40% of all subjects with hyperpepsinogen I develop an ulcer. Although there are thus several genetic markers associated with ulcer disease, none is associated with a 100% incidence of the malady.

Physiology of Acid Secretion

In order to understand the treatment of peptic ulcer, it is important to consider the opposing offensive and defensive factors that have an effect on the gastric mucosa. During the last ten years it has become clear that ulcer disease is more than just gastric acid unleashed on the gastric and duodenal mucosa. Present thinking is that the lesion is the end result of the unbalanced interaction of two opposing mechanisms.¹

Acid and pepsin have been identified as components of gastric secretion that are destructive to the mucosa. Therefore, if the physiology of acid secretion and pepsin activation are understood, the strategies of ulcer treatment can become logical and effective. It is now known that there are at least two and possibly three individual receptors on the human parietal cell that on stimulation produce acid.10 Histamine, acetylcholine, and possibly gastrin appear to have such individual receptors. Histamine activates cyclic AMP; acetylcholine and possibly gastrin increase Ca²⁺ influx into the parietal cell. Whatever the intracellular second messengers are, cAMP or Ca²⁺, they affect the production of hydrogen ion by the activation of a (K⁺-H⁺) ATPase proton pump at the apical membrane of the cell. Therefore, from the physiology of acid secretion, it is apparent that receptor blockade (anticholinergic agents, H-2 antagonists, gastrin receptor blockers), proton pump inhibition, or hydrochloric acid neutralization will decrease free acid in the stomach and potentially heal an ulcer.

An interesting phenomenon postulated in the scheme of acid secretion is the role of histamine as a potentiator of acid secretion. It is widely accepted that H-2 antagonists are more potent in-

hibitors of acid secretion by the parietal cell than anticholinergic agents or gastrin receptor antagonists. Why is this the case if each has its own receptor on the parietal cell? The theory of potentiation has been postulated to explain this phenomenon. In the experimental model of the isolated canine parietal cell, it has been shown that stimulation of the cell by a combination of histamine and acetylcholine or histamine and gastrin leads to more acid than the sum of hydrogen ions secreted by each agent individually. This hypothesis of secretagogue potentiation by histamine explains the more potent acid inhibiting capabilities of histamine antagonists over anticholinergic agents.

Peptic Activity

An increased serum pepsinogen is the only consistent genetic marker we have, but it is found in only half of the ulcer patients. There are two distinct types, I and II. They differ physicochemically, biochemically, and in proteolytic characteristics. Five different cell types secrete them the chief cells, the mucous neck cells, the cells in the cardia and in the pylorus of the stomach, and Brunner's glands in the duodenum secrete pepsinogen I, but only the first two secrete pepsinogen II. Most compounds that secrete acid stimulate pepsinogen secretion. Pepsins are activated at a low pH; proteolytic activity is inhibited at a pH higher than 5. In experimental models, acid alone causes a certain amount of mucosal erosion. If pepsin is added, ulcers occur. Thus, the proteolytic capability of pepsins may be important in forming craters.

What is the relationship between acid and pepsin activity? Hydrochloric acid does four things. It helps make the five types of peptic cells secrete pepsinogens; it activates pepsinogen to pepsin; it "turns on" the pepsin because the pH has to be less than 5 for pepsin activity, which decreases severalfold as the pH increases from 2 to 5; it denatures native protein in the mucosa of the stomach, because the proteolytic capability of pepsins is more efficient on denatured protein. If acid is reduced, pepsinogen production, pepsin activation, peptic activity, and proteolytic activity are all reduced too.4

Gastric Mucosal Defense Mechanisms

There is a defensive team against ulcer with several components, some debatable. Mucus is regaining some of the attention it received in earlier years. Some investigators think it is an important gastric defense against ulcer, but many are skeptical. Normally, the alveolar neck cells and the mucous cells produce a mucus layer 400 microns thick. The problem with gastric mucus is that it acts as an unstirred water layer; it doesn't buffer acids and it doesn't reduce peptic activity, and some people think that by itself gastric mucus does not protect the gastric mucosa. The parietal cells and the cells of the stomach oddly enough do make bicarbonate, though the amount of bicarbonate secreted is only between 5% and 10% of the total acid produced. Alkali production by the parietal cell can be demonstrated when the cell is treated with an H-2 antagonist.^{1,3}

There is also a phenomenon called the "alkaline tide" in the actively secreting parietal cell. When acid is produced, bicarbonate also is secreted but it is not enough to neutralize the hydrochloric acid since it is only 5% to 10% of the total acid secreted. Although alkaline secretion alone isn't enough, and mucus production alone is not enough, the two together may protect the mucosal surface. It has been shown that there is a pH gradient from the luminal surface of the mucus layer (pH of 2) to the lipid membrane of the epithelium of the mucosa (pH of 7). Due to this alkaline glycoprotein matrix, diffusion of H+ through the mucus layer is four times slower than through an unstirred water layer.3 However, there is a difference of opinion as to its usefulness. If a mucolytic agent such as acetylcysteine (Mucomist) is given to destroy the mucus membrane, it doesn't seem to affect the incidence of ulcer in some experimental models.1

Everybody seems to talk about the so-called gastric mucosal barrier as a major defense mechanism against the occurrence of ulcers. It really is an abstraction rather than a definable anatomic structure or physiologic mechanism. The gastric mucosal barrier is the entity that blocks backdiffusion of hydrogen ion into the blood stream. Anatomically it may be regarded as being made up of five different components: the mucus layer, the lipid surface of the epithelial layer, the surface epithelium, its basement membrane, and the mucosal blood supply. The rate of blood flow in the mucosa is important, because if acid should diffuse back into the mucosa, it is removed rapidly by the mucosal circulation; the acid doesn't stay there long enough to turn on histamine or to change permeability. The first thing that happens when the gastric mucosal barrier is disrupted is that membrane permeability is increased.1

Basically, the occurrence of mucosal ulcers can be viewed as an end product of the interaction of the offensive or aggressive factors-acid and pepsin—with the mucosal defense mechanisms mucus, alkaline secretion, the gastric mucosal barrier and lastly, cytoprotectors. With regard to the last, prostaglandins in high concentration inhibit acid secretion; they work intracellularly by an unknown mechanism. Prostaglandins also increase gastric mucus, stimulate alkaline secretion, strengthen the gastric mucosal barrier, and participate in what is called cytoprotection. It was Andre Robert¹¹ who developed the concept of cytoprotection. He did all sorts of nasty things to rats' stomachs. Using saline as the control substance, he put 25% sodium chloride solution, 0.2 N sodium hydroxide solution, boiling water, hydrochloric acid, and bile salts into the stomach in different experiments. In each instance huge craters resulted. Prostaglandins, in low doses so as not to block acid secretion by the pareital cells, were given as pretreatment and the destructive agents again placed in the stomach. There was protection of the mucosal barrier and no ulceration. Actually, some ulcers were still produced, but they healed more rapidly; the cytoprotection was not 100%. Giving indomethacin to block prostaglandin production could disrupt the mucosal barrier and block cytoprotection. It seems from these experiments that the prostaglandins have a vital role in defense against acid digestion of mucosal cells and maintenance of the mucosal barrier. Which specific prostaglandin is involved is not yet certain.

Management

Thus far we have considered the offense, the defense, and as part of the latter, cytoprotection. Management of ulcer disease includes the use of agents that decrease gastric acidity, drugs that enhance mucosal defense, and compounds that coat the ulcer crater. The problem with prostaglandins and prostaglandin analogs is that although they help with healing of stress ulcers and peptic ulcers, they caused diarrhea in up to 30% of patients in one series studied.

An interesting aspect of treating duodenal ulcers is that any of several effective methods are available. I personally have no preference. If the patient prefers antacids to H-2 blockers, that's fine with me. There are some recent data out of India showing that only 200 mEq of neutralizing ability of antacids are needed per day, which is about 10 ml of a potent antacid six or seven times

a day, to promote healing.¹⁴ The trick to successful treatment with antacids is that they must be given six or seven times a day, one hour and three hours after meals, and at bedtime. In ulcer disease, antacids retain H+ neutralizing ability for only two hours after meals.

It is common to see on the wards of the City Hospital of Memphis or in private practice patients with an uncomplicated duodenal ulcer receiving an H-2 blocking agent and an antacid. There are no data to my knowledge on the usefulness of this combination in the management of active ulcer disease. Some of the tricyclic antidepressant compounds have also been shown to be effective in decreasing acid secretion and in healing ulcers.

There is one aspect we mentioned about our case today that I want to address again briefly. The Ulcer Disease Study Section of UCLA¹⁵ took 100 people with ulcers and treated them for six weeks with a histamine receptor antagonist or antacid. Seventy percent were asymptomatic and healed at the end of six weeks. However, 18% were still symptomatic but only one-third of these (5% of the total) had persistent ulceration, leaving 13% with a healed ulcer still having pain. On the other hand, on endoscopy of all 100 patients, 12 who were cured of pain still displayed an unhealed ulcer. That raised the question as to what makes an ulcer hurt; the answer is, we don't know.³

Recurrence

A feature we need to be aware of is the recurrence rate after healing. Recurrence after discontinuation of either cimetidine or antacids in one study was the same; 30% of patients had an ulcer again in three months. Fifty-five percent will have a recurrence in six months and, in some studies, 80% in a year. Ulcer disease is a syndrome that we treat symptomatically but really don't cure. In the study quoted, healing occurred earlier in women, in nonsmokers, in those with fewer previous painful episodes, and in those with lower acid production.16 If you decide that a patient is having recurrences too often, cimetidine, ranitidine, or sucralfate at bedtime may reduce the relapse rate. However, whenever the H-2 antagonist or the sucralfate are discontinued, the recurrence rate goes back up to 80%. There are data out of Europe suggesting that ulcer disease might peak at seven or eight years and then slowly resolve more or less spontaneously.17 The reason for such a cycle is unknown.

Summary

These are my suggestions. Somewhere along the line, the diagnosis must be made certain by either an upper GI series or endoscopy. Not every patient who has a little indigestion should be referred to the endoscopist. In this geographic area, a single contrast upper GI series costs about \$110, a double contrast \$140. Endoscopy costs \$300 in an endoscopist's office; done at the hospital, it costs an extra \$100. A double contrast upper GI series should not miss more than 10% or 15% of peptic ulcers. Frequently, if a patient comes in with a classic history of ulcer, I'll usually obtain an upper GI series first. I don't think endoscopy is necessary every time the patient returns with a recurrence once a duodenal ulcer has been demonstrated. This point is a little controversial, but if you have demonstrated an ulcer and the patient comes in with the same symptoms, it seems rational to treat him again—antacids, sucralfate, or H-2 blockers for four to six weeks. If symptoms continue, extend the therapy to 10 to 12 weeks. Try to get them to stop smoking. If they keep hurting, rule out hyperacidity. Check gastrin and calcium to be sure they don't have gastrinoma. If symptoms recur later than three months, treat again for six weeks; don't use continuous maintenance therapy at this stage. If the pain recurs in less than three months, however, I suggest another course of treatment, probably

followed by long-range maintenance therapy, especially if the patient is a poor surgical risk, or elderly, or has had bleeding. If recurrences continue on maintenance therapy, then I would seriously consider surgical treatment.15

REFERENCES

- 1. Brooks FP, Cohen S, Soloway RD (eds): Peptic Ulcer Disease. New York,
- Churchill Livingstone, 1985.2. Grossman MI (ed): Peptic Ulcer: A Guide for the Practicing Physician. Chicago, Year Book Medical Publishers, Inc, 1981.
- 3. Isenberg JI, Johansson C (eds): Peptic ulcer disease. Clin Gastroenterol 13:287-654, 1984
- 4. Konturek SJ, Domschke W (eds): Gastric Secretion: Basic and Clinical Aspects. New York, Thieme-Stratton Inc., 1981.
- 5. Elashoff JD, Grossman MI: Trends in hospital admissions and death rates from peptic ulcer in the United States from 1970-1978. Gastroenterology 78:280-285, 1980
- Sontag S, Graham DY, Belsito A, et al: Cimetidine, cigarette smoking, and recurrence of duodenal ulcer. N Engl J Med 311:689-693, 1984.
 Aspirin Myocardial Infarction Study Group: A randomized, controlled trial
- of aspirin in persons recovered from myocardial infarction. JAMA 243:661-669,
- 8. Silvoso GR, Ivey KJ, Butt JH, et al: Incidence of gastric lesions in patients with rheumatic disease on chronic aspirin therapy. Ann Intern Med 91:517-520, 1979,
- Conn HO, Blitzer BL: Medical progress: Non-association of adrenocorticosteroid therapy and peptic ulcer. N Engl J Med 294:473, 1976.
 Soll AH: Physiology of isolated canine parietal cells: Receptors and effectors regulating function, in Johnson LR: Physiology of the Gastrointestinal Tract. New York, Raven Press, 1981, pp 673-691.
- 11. Robert A: Cytoprotection of the gastrointestinal mucosa. Adv Intern Med 28:325-337, 1983.
- 12. Levine JB: Pharmacologic options for the control of peptic ulcer disease. Adv Intern Med 30:425-447, 1984
- 13. Vantrappen G, Janssens J, Popiela T, et al: Effect of 125(r)-15-methyl prostaglandin E (Arbaprostil) on the healing of duodenal ulcer: A double-blind multicenter study. Gastroenterology 83:357-363, 1982.

 14. Kumar N, Vij JC, Karol A, et al: Controlled therapeutic trial to deter-
- mine the optimum dose of antacids in duodenal ulcer. Gut 25:1199-1202, 1984
- 15. Ippolite AF, Sturdevant RAL, Isenberg JI, et al: Cimetidine versus intensive antacid therapy for duodenal ulcer. Gastroenterology 74:393, 1978
- 16. Freston JW: Cimetidine: 1. Developments, pharmacology, and efficacy Ann Intern Med 97:573-580, 1982
 - 17. Fry J: Peptic ulcer: A profile. Br Med J 2:809-812, 1964.

APRIL 1986							
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	
		1	2	3	4	5	
6	7	8	9 10 11 12 TMA 151ST ANNUAL MEETING Opryland Hotel—Nashville				
13	14	15	16	17	18	19	
20	21	22	23	24	25	26	
27	28	29	30	NOTES	IOTES		

Filling Defects in the Common Bile Duct

EAPEN THOMAS, M.D.

Case Report

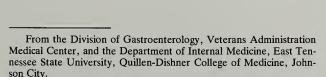
A 92-year-old man was admitted to the hospital with fever, shaking chills, vomiting, and jaundice for four days. Abdominal pain was absent; his urine was dark and stool light in color. He was icteric and febrile, with tachycardia and signs of dehydration and hypotension. The liver was not enlarged. His WBC count was 14,500/cu mm with 70% segmented neutrophils, 18% bands, 11% lymphocytes, and 1% monocytes; serum bilirubin was 15 mg/dl, alkaline phosphatase 296 IU/L, SGPT 140 units/L, and SGOT 139 units/L. A sonogram of the abdomen revealed a dilated common bile duct and suspicion of a mass in the head of the pancreas. When blood culture grew a Gram-negative rod, until it could be further identified, the patient received amikacin, ampicillin, and clindamycin, and intravenous fluids and electrolytes; his condition stabilized over the next three days. Endoscopic retrograde cholangiopancreatography showed the pancreatic duct

The x-ray study shown is the endoscopic cholangiogram (Fig. 1). What is your radiographic diagnosis?

- (1) Choledocholithiasis
- (2) Cholelithiasis
- (3) Air bubbles in the common bile duct
- (4) Ascaris in the common bile duct

Discussion

Endoscopic management of common duct stones is a low risk method that requires only a few days of hospitalization and avoids prolonged postoperative convalescence, wound pain, and disability. It is suitable for elderly or high risk patients, even when the gallbladder is in situ. Clearing the bile duct of stones relieves jaundice and infection, and if the cystic duct is patent, stones in the gallbladder may also pass. If cholecystectomy is necessary, it can be done at a later date, with the biliary anatomy well defined, common duct clear, and infection relieved, greatly reducing the risk of cholecystectomy and avoid-



Reprint requests to Division of Gastroenterology (111D), Veterans Administration Medical Center, Mountain Home, TN 37684 (Dr. Thomas).



Figure 1. Endoscopic retrograde cholangiogram.

ing the more risky common bile duct (CBD) exploration.¹

Small stones less than 1 cm in diameter are removed by endoscopic papillotomy, followed by extraction using a balloon catheter if necessary.¹

Larger stones can be removed by endoscopic biliary sphincterotomy,² in which the whole biliary sphincter is severed to make a wide opening. Stones as large as 3 cm may pass, and decompression can be achieved by passing a nasobiliary catheter or by crushing the stones with a lithotripter. Once a nasobiliary catheter is in place, radiolucent cholesterol stone dissolution can be attempted using a solvent such as monoctanoin or methyl tert butyl ether (MTBE).

In Europe, up to 50% of patients undergoing sphincterotomy have intact gallbladders. Of these, only about 15% developed symptoms of cholecystitis later, half responded to medical treatment, and half underwent cholecystectomy, leaving more than 90% of patients with an intact gallbladder following sphincterotomy.

NOVEMBER, 1985 709

The morbidity of endoscopic biliary surgery is related to stone size, clinical circumstance, and operator experience. In experienced hands complication rate is in the vicinity of 2%. Complications include duodenal perforation, hemorrhage, and pancreatitis. Failure to relieve obstruction and infection may result in patients having to undergo emergency biliary surgery, the risk of which can be lowered if the patient is well prepared and sepsis brought under control.¹

Answer

The x-ray study is an endoscopic retrograde cholangiogram with the fiberoptic endoscope in place in the duodenum. The CBD is dilated to about 10 mm. The contrast medium is filling the cystic duct and partially filling the gallbladder, seen lateral to the endoscope. The catheter is inside the medial wall of the common bile duct to

the level of the cystic duct. The several globular radiolucent filling defects in the distal CBD are air bubbles introduced following sphincterotomy and stone extraction.

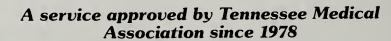
The filling defects can be mistaken for radiolucent biliary stones, though biliary stones are generally faceted. The globular shape of the defects and their tendency to burst and reform during fluoroscopic evaluation indicates that they are air bubbles formed at sphincterotomy. This patient's gallbladder was clear of any faceted filling defects. The *Ascaris* nematode is a rare cause for CBD obstruction and ascending cholangitis; it is generally recognizable by its linear shape.

REFERENCES

- 1. Bayless TM: Current Therapy in Gastroenterology and Liver Disease 1984-1985. Philadelphia, B. C. Decker, Inc, pp 467-469.
- 2. Thomas E, Reddy KR: Endoscopic sphincterotomy for choledocholithiasis. J Tenn Med Assoc 74:705-708, 1981.

CUT the **COST** of your workers' compensation insurance with the Dodson Plan!

15% advance discount applies PLUS dividends averaging 23.5%



With Dodson, you also benefit these ways:

- Yearly dividend paid as earned at year-end, based on cost of claims from all insured.
- Quick, efficient claim handling, often completed within 48 hours.
- New, no-charge payment plans.

Write us or call toll-free for full details:

Insurance provided by

CASUALTY RECIPROCAL EXCHANGE

Member of Dodson Insurance Group P.O. Box 559, Kansas City, MO 64141 800-821-3760

Legal Suicide. Weapon: The Medical Record

J. KELLEY AVERY, M.D.

Case Report

A 50-year-old white man was admitted to the hospital from the office because of pain in the epigastrium which had been previously described as an "epigastric hernia" or lipoma by another doctor. The patient was extremely obese, and the epigastric hernia/lipoma was papable only with the patient in the upright position. He also had pain in the left wrist, which was a result of repeated injuries. The patient came in asking for surgical relief of these conditions.

EKG indicated a first degree AV block. Laboratory work was within normal limits, as was the chest x-ray. X-ray of the left wrist showed an old ununited fracture of the navicular bone, which affected the joint surface of the radius, and early arthritic changes.

The patient was taken to surgery, and under general anesthesia the epigastric hernia was repaired and two large fragments of bone were removed from the wrist. The patient made an uneventful recovery and was discharged to be followed in the clinic.

Six weeks following surgery the patient presented to the office complaining that the "lump" that was to have been removed at the time of surgery had not been removed and in fact still existed just above the scar. The lump was believed to be either the epigastric hernia or lipoma that was to have been removed at the time of repair of lower hernia, or diastasis of the rectus muscle. The surgeon documented his office records accordingly, stating "the little lump was missed in the fatty supine abdomen." In addition, the surgeon documented that he offered to remove the lump on an outpatient basis free of charge.

The patient indicated that he desired to think it over, and further indicated that he might ask the surgeon's partner to remove the mass since the partner had operated on another family member

Following this discussion the surgeon communicated to his colleague by documenting in the record the following: "Partner, please do the necessary, but handle this turkey with kid gloves in order to avoid a lawsuit."

Loss Prevention Comments

This was obviously a difficult obese patient with extensive diastasis of the rectus muscle. The "epigastric hernia/lipoma" may or may not have been a true hernia through the midline fascia in the epigastrium.

The eventual sizable loss in this case was apparently due entirely to inadequate and faulty medical records. There was no documentation of informed consent dealing with the possibility of complications in this fairly simple problem enormously complicated by obesity. The risks of recurrence or failure of adequate repair should certainly have been dealt with. The record contained a virtual admission of negligence in the statement "the little lump was missed in this fatty sizable abdomen" without explanations of how easily this could have occurred, or pointing out that with the patient in the supine position there was no evidence of the abnormality. The reference in the note to his partner referring to the patient as "a turkey" was highly inappropriate and would have never been understood by a jury. Settlement was essential.

This loss was produced not only by an omission of any acceptable process of informed consent, but also by an inappropriate admission of negligence and a slang reference to this patient totally out of place in a medical record. This physican committed legal suicide using the medical record as his weapon.

NOVEMBER, 1985 711

Dr. Avery is medical director of State Volunteer Mutual Insurance Company

Tennessee's Statewide Prenatal Program Serving Low-Income Pregnant Women

PAULINE S. McINTYRE, R.N.

In 1982, Public Chapter 916 was enacted to provide funding for a statewide prenatal care program. The impetus for this legislative action resulted from the high incidence of women receiving inadequate prenatal care and a high percentage of low weight births, the loss of federal "Towards Improving the Outcome of Pregnancy" (TIOP) funding, an evaluation of TIOP services demonstrating a reduction of low weight births, and recommendations from Governor Lamar Alexander's task force that studied the prevention of mental retardation.

The prenatal program is a good example of a public health service whose success depends upon the cooperation of private physicians. The program is not a third party payor for prenatal and delivery services because there are not enough funds to support this approach. Instead, the program has relied upon cooperative agreements with private physicians and hospitals, with only token payments available to offset some of the expense for this indigent care.

In an effort to decrease the number of women who appear for an emergency delivery without prenatal care, physicians, public health nurses, nutritionists, and health educators have devised various joint arrangements for providing care and counseling. In some areas private physicians deliver all or most of the prenatal care, while in other areas the county health department assumes prenatal care, with medical back-up by the physician. The program differs from area to area because private physicians prefer to play different roles in this program.

The overall goal of Tennessee's statewide prenatal program is to improve the health status of mothers and infants by reducing the percentage of low weight births and decreasing neonatal and infant mortality. The Department of Health and Environment hoped to achieve this by the development and implementation of a comprehensive

From the Tennessee Department of Health and Environment, Nashville.

statewide prenatal program providing all pregnant women an access to quality prenatal care, by insuring that all health departments provide at least a basic level of prenatal care, and by increasing the proportion of women initiating prenatal care in the first trimester of pregnancy. As the statewide prenatal program enters its fourth year of operation, it is timely to reflect on the progress made thus far, as well as the significant accomplishments that have occurred.

In 1982, only 28 counties were capable of providing comprehensive prenatal care services through the public health mechanism. The successful implementation of Tennessee's statewide prenatal program has enabled all 95 counties to provide, or arrange for the provision of, at least a basic level of prenatal care services, with 74 counties achieving a maximum level of care—comprehensive health care management throughout pregnancy, with established consultation, referral, and follow-up mechanisms.

Prior to its statewide implementation, prenatal services were provided to approximately 4,000 low-income pregnant women. Program data indicate that in fiscal year 1983-84, approximately 14,000 indigent women received their prenatal care through public health; 70.8% of these received a maximum level of services. This number of program admissions represents approximately 20% of all births occurring within Tennessee, and 87.5% of the program's original target projection of 16,000 women who need additional resources for obstetrical health care. Furthermore, 57% of all program patients (58.3% of white and 54.4% of nonwhite) entered a system of care between the 1st and 14th week of pregnancy. Hamilton County led the state with 71.7% enrolled during this period. Even greater program success can be demonstrated if one looks slightly beyond the first trimester at those entering care between the 1st and 20th week. In this instance the program achieved a total of 79.3%, with Hamilton County reaching 90.5%. Patients delaying care until

the third trimester of pregnancy totaled 7.2% (7.5% of white and 6.6% of nonwhite).

It can be concluded that the statewide prenatal program is proving to be a valuable community resource for providing health care services to the low-income target population. Moreover, the program appears to be having a positive impact upon the early initiation of prenatal care. The data are especially encouraging when one considers that public health patients, who are predominantly low-income nonwhite teenagers, traditionally delay seeking prenatal care.

Although the infant mortality has declined from 12.6 in 1981 to 11.8 in 1984, all of us would like to see a much sharper decline. The incidence of low birth weight (less than 2,500 gm) is essentially unchanged at 8% during this same interval of time. This trend is being seen all over the nation, and is prompting many to suggest that intense efforts must now be made to decrease the incidence of low birth weight in those groups known to be at higher risk.

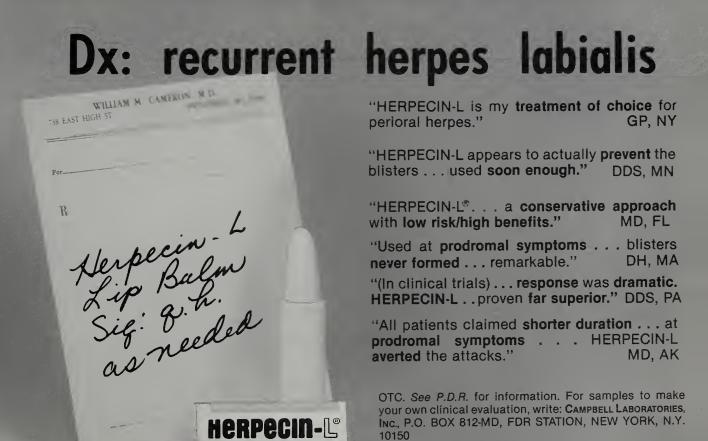
We hope that future efforts to improve our prenatal efforts will include a pilot project utilizing intensive methodology for the reduction of low weight births, specific strategies to improve pregnancy outcome in the nonwhite population (which has an infant mortality rate and low weight birth incidence twice that for whites), prenatal administration of Rh_O (D) Immune Globulin (RhIG), routine prenatal chlamydia screening, and appropriate genetic testing in selected populations. It may take more than one year to implement these activities, but they are seen as definite needs.

The greatest problem facing prenatal care efforts is the limited number of physicians providing obstetrical services within Tennessee, and the even more limited number who provide prenatal care to Medicaid or indigent women. Although there are some areas with almost no private resources for obstetrical services for these patients, in other areas private physicians are providing this care to the limit of their capability. This dedication and cooperation is vital to any further successes of Tennessee's prenatal program.

REFERENCES

- 1. Wholey JS, Wholey MS: Toward Improving the Outcome of Pregnancy: Implications for the Statewide Prenatal Program. Tennessee Department of Public Health, 1982.
- 2. Tomorrow's Children, a special study report on prevention of mental retardation by the Governor's Task Force. State of Tennessee, 1981.

In Tennessee HERPECIN-L is available at all Eckerd, Revco, Super D. SupeRx Drup Stores and other select charmacies.



For a Medical Consultation, Call a Specialist. MIST.

Control of the State of the Sta



The University of Alabama Medical Center

president's page



CLARENCE R. SANDERS

We Can Maintain Control of Our Destiny

The President's Page this month is devoted to a problem which has become increasingly important, not only to me, but to all of us who call ourselves medical practitioners, as well as to concerned citizens. Most of us are all too aware that our profession is becoming regulated and controlled by groups and individuals who have no earthly idea of what we do, how we do it, or even why we do it. Decisions and recommendations concerning medical care are being made every day by governmental agencies and by those who are not now, nor have they ever been, involved "in the trenches," so to speak. For this reason, as well as countless related others, we need to be heard, and to have our opinions and recommendations asked for and considered. Of course, all of them will not, and probably in some instances should not, be accepted, but they should at least be reviewed. It might be well to note that the time for decisive action in this regard is rapidly running out as we are virtually being regulated and deregulated into oblivion.

In this same vein, I trust that all of you are familiar with IMPACT (Independent Medicine's Political Action Committee—Tennessee), an organization whose main thrust is to nurture and to maintain rapport between us—as medical practitioners—and the people we have helped elect to represent us at all levels of government. Many of you even belong to this special organization but, unfortunately, not very many of you. According to Jack Fosbinder, executive director of IMPACT, only 862 members of the TMA are IMPACT members and Tennessee ranks 25th out of the 50 states, plus D.C., in percentage of physicians who are members. Does this tell you something?

Despite its relatively small membership, however, IMPACT managed to exert considerable influence during the last elections, as it was successful in 58 out of 67 House races and was successful in 11 out of 12 Senate races. IMPACT is a bipartisan organization and its activities are governed by a ten-person Board of Directors, consisting of representatives from the nine congressional districts of Tennessee. Dr. James R. Royal serves as chairman of this distinguished Board.

Because of the severity of this problem and because you can make a difference, I strongly urge each of you, if you have not already done so, to join this worthwhile and important organization. If you feel that you simply do not have the time to become actively involved at this time, then I urge you to let your voice be heard in the form of a financial contribution to IMPACT. By so doing, you can maintain some control over your own destiny and, by the same token, take a giant step toward protecting the best medical care system in the world.

clarence R Sanders MD

journal of the tennessee medical association

PUBLISHED MONTHLY

DEVOTED TO THE INTERESTS OF THE MEDICAL PROFESSION OF TENNESSEE

OFFICE OF PUBLICATION: 112 LOUISE AVENUE, NASHVILLE, TN 37203

JOHN B. THOMISON, M.D., EDITOR

ADDISON B. SCOVILLE, JR., M.D., ASSOCIATE EDITOR

JEAN WISHNICK, MANAGING EDITOR

Acceptance for mailing at special rate of postage provided for in Section 1103, Act of October 3, 1917, authorized July 15, 1932

Copyright for protection against republication Journals af the American Medical Association and of other state medical associations may feel free to quote from this Journal whenever they desire merely giving credit to this publication

Address papers, discussions and scientific matter to John B Thomison, M.D., Editor, P.O. Box 70, Nashville, TN 37202

Address organizational matters to L. Hadley Williams, Executive Director, 112 Louise Avenue, Nashville, TN 37203

COMMITTEE ON SCIENTIFIC AFFAIRS

OSCAR M. McCALLUM, M.D., Chairman, Henderson SIDNEY L. BICKNELL, M.D., Jackson CLAUDE H. CROCKETT, JR., M.D., Bristol WINSTON P. CAINE, M.D., Chattanooga TED W. HILL, M.D., Gallatin FRANCIS W. GLUCK, JR., M.D., Nashville JOHN B. THOMISON, M.D., Nashville, Ex-Officio

NOVEMBER, 1985

editorials

Chicago, 1985: A Report From the AMA House of Delegates

About 10 or 12 years ago I decided that there was no convenient way for our members to find out what went on at the AMA meetings, and so I began writing a summary of actions taken by the House of Delegates. They were incomplete

of necessity, and reflected my own personal bias about what was important. As you might imagine, getting cranked up to think about all that stuff again after a month or so required some doing, but I thought it was important enough that each time I finally took the bull by the horns and did it. The size of the handbook has increased at each meeting, incessantly increasing the work of the House, and therefore making its summarization increasingly a chore. At the meeting in June, for example, reports of the Board of Trustees, which are identified by letters, went into triple overtime for the first time (that means 26×2 , plus). When several years ago the Medical Student and Resident Sections were formed, they began grinding out resolutions by the yard. They have since quieted down some, but the newly formed Hospital Medical Staff Section is doing the same thing all over again.

Ordinary resolutions and reports must, according to the rules of the House, reach AMA headquarters in time to be distributed to the delegates about a month before the meeting. Since the sections meet just before the House does, though, obviously any resolutions about specific items they consider important must necessarily arrive on the delegate's doorstep just as the meeting begins, which is the day before the reference committees meet. The upshot of this is that since the delegates will have had almost no time to study them, and none at all to confer about them with their colleagues back home, a whole lot of those resolutions wind up being referred to the Board of Trustees for study, thereby, despite the Board's pleas to the House to dispose of them otherwise, increasing the Board's work and the amount of paper they turn out. It is my own personal opinion that in the Hospital Medical Staff Section we have created a monster that is eating up a great bite of the AMA dues pie with very little to show for it. So as to fund a Monster Rally next month (October) in Washington, some very urgent activities (in my estimation) have had to be cut back, and the dues have still been raised \$45. To be fair, this is not all the fault of the new section, though it helped.

To get back to the subject. A few years ago AM News was started to keep the members informed about the affairs of the Association, and in it the deliberations and decisions of the House of Delegates are duly reported. That makes any long summary here redundant, and redundancy is first a luxury we cannot afford, and second, it remains a redundancy in a situation where if one

is good, two is definitely *not* better. To test the water, I didn't write a report on last December's meeting of the House. If anyone missed it, I have yet to get the first inkling of it. Therefore, I have now formally desisted.

I shall of course continue to bend your ear about things I think need emphasizing, and to publish such council reports as I—or the House of Delegates—believe need wide exposure—exclusive of those of the Council on Scientific Affairs, which are being distributed to the membership in book form. I shall also doubtless editorialize on some of them. But as to bringing you up to date on all that the House has done—well, for that I refer you to *AM News*, which you will have already seen.

J.B.T.

From High Times to Low: A View From the Toboggan

There is a poignant scene in Eric Maria Remarque's story All Quiet on the Western Front in which a war-weary group of young German soldiers decide that since wars are started at the top, and the common soldier seldom even knows why he is trying to stamp the life out of young men in the trenches opposite, it would be appropriate for King George and the Kaiser to fight it out before their troops, after which everyone could go home—a sort of David and Goliath activity, you might say.

If such was an oversimplification in 1918, it would be an absurd flight of fancy nearly 70 years later, when it is next to impossible to find out who's in charge in almost any situation you can think of. For instance, when I was in medical school the university had a chancellor, who ran things, and each school had a dean, who ran things. Each department had a head, who ran things. Differences were settled by the dean and the involved department heads. Nowadays the medical school has an executive faculty made up not of department heads but of "chairmen" (or worse, chairpersons, and still worse, "chairs"). It can seldom settle anything. What usually results is not a horse but a camel—or worse. That seems the situation nearly everywhere. One should not expect much from anything, though, with a chair as its head, I suppose.

Every four years we in the United States go through the motions of electing a president in hopes that he will change things in ways that will reflect the will of those who elected him. When the president is a charismatic leader, he can exert significant influence, but to really change things there must be replacement of functionaries all the way down the line. By that I do not mean legislators, who may think they run things, but don't. The president appoints department heads who share his philosophies, and legislators pass laws that reflect (they think—or perhaps hope, since they wish to continue in office) the wishes of their constituency—or at least the more influential (which means affluent) part of it. But who do you think advises them in all this? And who do you think writes the regulations? Not the president's appointees or any elected official. The ones who write the rules, which is tantamount to running things, are the individually faceless civil servants who go on and on, regardless of the brass, doing what they have always been doing. Since they have been around longer than a while and therefore know the ropes, newcomers (and that includes presidents, senators, and cabinet members) listen to them. That is the bureaucracy. The only way to really change things quickly is to do what the likes of Hitler and Stalin and Mao have always done-flush out the system and build your own bureaucracy from scratch. Those who question your will become not faceless but headless.

In all things, the bigger the body is, the more entrenched and intransigent the bureaucracy. Another hazard, at least to the constituency, is that with a really big bureaucracy, such as the United States Government, the right hand has no idea what the left hand is doing, or perhaps more properly no interest, as each is going to do its own thing regardless of the other. For instance, one federal agency tells Medicine to clean up its act, yet when we try, another agency rules us in restraint of trade and subject to triple damages.

The AMA is no exception to this. The AMA is smaller, so its bureaucracy is a little more transparent but it is nonetheless intransigent. The House of Delegates theoretically runs things by instructing the Board as to what it is to do. The House meets only twice a year, though, and life goes on. Though the Board meets four to six times a year, things happen every day, and so the association has an executive vice-president (EVP), who really runs things. He should. It is

NOVEMBER, 1985 723

what he is hired to do. He is very good, and because he is energetic, and his bureaucracy is not very big, he can keep a tight rein, and he does. The president has little or nothing to do with steering the ship. He has largely removed his hand from the wheel and gone to blowing the horn. Although the AMA government is theoretically republican like that of the United States, it is actually more like that of Great Britain—a constitutional monarchy with a prime minister, which probably works better, anyway.

As with all organizations, there is a lot of ceremonial persiflage around the AMA about authority, but everyone who has ever done anything more in the AMA than be a member knows where the power lies. Though there is a superpower, like God or the Politburo, that can change things, doing it is more like steering a battleship than riding a bicycle. You can, of course, sink it, but that is seldom wise and in this case it would not be. The EVP has broad discretionary powers limited by the budget he is given to work within and general policies he is given to follow, which are the responsibility of the Board and House of Delegates.

This is a time of almost total frustration for Medicine, and directly or indirectly "the AMA" gets blamed for a whole lot, maybe even most, of it, "the AMA" being to doctors "out here" a nebulous entity "out there." By the AMA is usually meant the AMA staff or the Board of Trustees or something even less clearly defined, and therefore easy to blame. But the AMA is you or should be. If the AMA is not solving your problems with liability insurance, or the fee freeze, or Medicare participation versus nonparticipation, or HMOs, or the JCAH, or non-licensed practitioners, or DRGs, or PROs, or your eroding image, and so on, it is not for lack of trying, regardless of what you may think. "They" are just as interested in solving those problems as you are, as attested to by the rash of resolutions and reports on those subjects considered by the House. It is just that the legislators and regulation writers are recalcitrant. They are recalcitrant toward the lesser pressures.

So avidly is the AMA pursuing these legislative quarries, in fact, in an attempt to become a squeakier wheel, that some programs in the area of education that in my estimation are vital to the welfare of the membership are being seriously curtailed. Education has become a secondary commitment of the AMA—read the front office—political activity having been perceived as

the burning desire of the membership, and the thing that will attract the most new members. I consider it a dangerous ordering of priorities for the AMA to abrogate its primacy in education, but I must confess, though it grieves me to do so, that like the EVP I also think that is what the majority of the membership presently thinks it expects of the AMA. I believe, however, that such a course pursued long enough will see the AMA become no more than a trade union, and I certainly do not think that is what the membership wants, though I may be wrong about that, too. I therefore consider the policy shortsighted, and I intend to do whatever I can to oppose it.

On the other hand, I intend to oppose it from the *inside*, and until, as well as unless, I can change them, I play by the rules. A few people leave the United States because they don't like the rules, but not very many. The rest of us either accept them—granted, often with grumbling—or do what we can to change them. There is no reason it should be any different with the AMA. With both there are mechanisms for change, even if they are cumbersome. Complaining from the outside is ineffectual; you can't shape Medicine's course from out there.

Like most other doctors I belong to my own specialty organizations, some of which provide the specialty education I need, and others of which are primarily socioeconomic—read legislative. Like all other specialty societies, their view is necessarily—deliberately—constricted and their objectives narrow. We need an umbrella, and that umbrella should be the AMA.

Contrary to what many of the AMA's uninformed members, as well as most nonmembers, believe, the House of Delegates of the AMA is replete with real medical statesmen, men with clear vision about what Medicine should be and where it should be going. The rub comes in getting that translated into action. Since the EVP is responsible for day-to-day operations, at the sufferance of the Board of Trustees, those individuals become the natural targets of our frustration and disillusionment. They are still our colleagues, though, and in fact suffer the same frustrations as the rest of us, possibly even more acutely, since they are the ones under the gun, so to speak. Every one of us has his own notions about what is important, and sometimes those notions are mutually exclusive. They are the ones who must make the choice.

Rock-throwing and cuss-fights can temporarily relieve a lot of inner tension, but their long-term

effects are very destructive. With friends who engage in those activities, we really don't need any enemies, though we have a lot of those, too. We can destroy ourselves without their help. All of us badly need each other, and it is high time we began pulling together. The high times of Medicine are fast becoming low times; the course is steep, and very, very slippery.

J.B.T.

Rediscovering Lost Loves

I have four grandsons a little more or less than 5 years old, and the older ones have already been in school two years. They know a lot. They know it not only from school, but from the likes of "Mr. Rogers" and "Sesame Street," and from parents who know a lot more than mine did. Mostly they know a lot more because there is a lot more to know and there are more ways of spreading the word. But with all of that, I keep having the nagging feeling that the children are somehow deprived. Busy—that's the word for their generation. Always busy, and so young!

I was 6 years old when the first talking movie was made; Charles A. Lindbergh-Lucky Lindy-made the first solo flight across the Atlantic Ocean that same year. I have a clear memory of our first radio a year or so earlier. I made a trip to the New York World's Fair after my first year in college and saw one of the first demonstrations of television. On the darker side, one of my childhood playmates died of polio, and another of streptococcal sepsis from a broken blister on his heel. Almost no family I knew as a child had more than one automobile, and when I was in Vanderbilt there were only two cars in the whole SAE fraternity, at least among the boarding students. Today's young wonder how we got along; quite well, thank you—though partly because we didn't know any different.

But only partly. When I was growing up the radio was so much a novelty that it was a rather constant companion, one which, unlike television, can intrude or not, according to one's wishes. I learned to study with the radio going, tuning out the spoken word and listening more or less subconsciously to the music, as I have done ever since.

Before there was radio, we had a Victrola with a few dozen records that were played over and over again. They played for about three minutes. Two that I remember were Madam Schumann-Heink singing Verdi's "Caro Nome," which my mother loved, and a guitar-playing folk singer's rendition of "Birmingham Jail," my father's favorite. There were some Charlestons, and Rudy Vallee, I think, singing "Lucky Lindy." I liked them all, and my musical tastes were and still are catholic; I think it may be because there wasn't a lot of competing sound, and because nobody ever told me I should (or shouldn't) listen to music, or what that music should be, until I was in the fourth grade, when we began our music appreciation course. Choices of recorded music were limited, and the First Movement of Beethoven's Fifth Symphony, Shubert's "Erlkoenig," and the overture to William Tell, among others, were worked overtime. To confound popular wisdom, if what one becomes familiar with is worthwhile, it does not breed contempt.

While engaged the other Sunday in my customary extracurricular activity of editing manuscripts, I was lured back to consciousness of my surroundings by the familiar opening strains of Beethoven's glorious Violin Concerto, which urgently insisted that I uncharacteristically stop what I was doing and listen. It is what happens to me when Beethoven or Verdi speaks. It set in motion a sort of free association that struggled for expression. What it did was remind me again that although since being introduced to Beethoven I have "discovered" a host of favorites, it takes only a few bars of something of Beethoven to bring me back to reality, and I rediscover that Beethoven is indeed as magnificent as I once thought he was. His sound is my sound. I have the same trouble with Verdi. When I was in college I discovered Wagner, Verdi's great rival, and for a while I went traipsing after him. Wagner is indeed superb, but Verdi is-Verdi.

My mother loved the beach and one of her souvenirs of her young years was a large conch shell, which she would hold to my ear and tell me that if I would listen closely I could hear the ocean roar. I could, and thereafter I would go to the seashore through books; but the memory of actually visiting it when I was 8 years old still brings a thrill of excitement, the pain of a bad case of sunburn that kept me virtually immobile for the first week having been quickly forgotten. Even now I get goosebumps whenever I return to the ocean and hear its roar and smell the sea air. After all these years, I can't wait to return, even though I have since done so countless times;

NOVEMBER, 1985 725

I spurn air-conditioned comfort for windows open to the salt air and the soothing sound of breaking surf.

Almost since I was old enough to walk I have climbed around on sheer mountain bluffs and hiked wooded trails, so instead of bringing the thrill of adventure, mountain trails with their streams and waterfalls and their laurel and rhododendron soothe my sated mind like a comfortable old chair. Whereas the seashore is an adventurous retreat, the mountains are home. Each has its different pull, each so many memories.

It serves no useful purpose to retreat into memories, but memories can be useful provided they are kept in proper perspective. Wisdom comes with experience and experience resides in memories. Memories of tragedy can embitter, or they can engender compassion and empathy. Fond memories can lift the veil that hides lost loves. During the harried, hectic times that all marriages must endure, for instance, times when relationships may become badly strained, memories can remove from the eyes scales that make one see things as they really are, and reveal instead through rosy glasses the cherished face of young love. Such a notion would doubtless be abhorrent to the literal minded, but it can be a useful exercise.

I remember lying as a boy in our front yard, which looked out over the east brow of Lookout Mountain toward the valley below, gazing up into the night sky, its starry glory undiminished by smog or city lights, and feeling very close to God. That too is very hard to hang onto in today's busy existence (a term I use in contrast to "productive life," which it often supplants). That is another love that badly needs rediscovering—or discovering if closeness to God has never been a reality.

That relationship with God is the reason we have Thanksgiving Day. Though there is nothing wrong with eating turkey and watching football on Thanksgiving Day, that is not what it is for. It was proclaimed as a day specifically for giving thanks to God for this nation—a nation in which men and women are free to worship Him in whatever way they choose, or not worship Him at all—or even acknowledge for that matter that He exists. It is ironic that in the name of freedom, "separation of church and state" has been corrupted to seriously curtail that freedom, when actually our Constitution says nothing about separation of church and state—only that there shall be no established state religion. It is a difference

that appears to have been beclouded by the practical atheism of our time.

Like those around me, I spend my days thinking mostly scientific or "practical" thoughts. Children these days are exposed to a plenty of things to wonder at, but I fear they have little time to wonder at them; they too are guided mostly toward "practical" thoughts. The alternative for them is the pure fantasy of cartoons and Luke Skywalker. Not that there is anything wrong with fantasy. It does rest the brain, putting it in neutral, as it were; I like it myself. What I have been talking about though are romantic things—trivia that like fantasy do nothing to add to the sum total of human knowledge or to human progress, at least not in themselves. Though I confess that the two are in that sense equally impractical, there is nevertheless a difference. Unlike pure fantasy, these things put the brain in overdrive instead of neutral, making it race along toward insight. They can help movers and shakers move and shake in the right direction. Without them—well, the result is too often apparent.

Next best to not having any lost loves is rediscovering them. We need to make this Thanksgiving Day a time for dwelling on how far we may have fallen, both individually and as a nation.

J.B.T



Counting Serious Infections In Tennessee

To the Editor:

Recently, the Centers for Disease Control contracted with a number of institutions to search for and enumerate several serious bacterial infections. These include toxic shock syndrome, meningitis and sepsis caused by pneumococci, meningococci, *Hemophilus influenzae* group B, *Listeria monocytogenes*, and group B streptococci. The purpose of the surveillance is to determine priorities for the effective allocation of public and private resources for research and the prevention and treatment of these diseases.

Vanderbilt University's Department of Preventive Medicine has been awarded one of the contracts and will be collaborating with the Communicable Disease Division of the Tennessee Department of Health and Environment in carrying on the surveillance in all the general hospitals of Tennessee. Because a known population will be studied and almost all cases will be admitted to hospitals, we should obtain uniquely accurate incidence figures for all these diseases.

The study group will be calling a representative at each Tennessee hospital once every two weeks to find new cases of each of these diseases. Part of the study of toxic shock syndrome will consist of telephone interviews with patients to obtain from each of them information to help identify preventable risk factors. To do this we will first call the patients' physicians for permission to make these inquiries. We hope to reach all patients, and as the year progresses will be calling those physicians who have cared for these patients. We expect there will be between 30 and 50 such cases in Tennessee in the 12 months of the study, which will begin in late 1985.

Lewis B. Lefkowitz, M.D. Professor of Preventive Medicine School of Medicine Vanderbilt University Nashville, Tennessee 37232



Garnet J. Budd, age 85. Died September 9, 1985. Graduate of University of Manitoba Faculty of Medicine. Member of Washington-Unicoi-Johnson County Medical Association.

Augustus H. Lancaster, age 88. Died September 2, 1985. Graduate of Vanderbilt University School of Medicine. Member of Knoxville Academy of Medicine.

Charles K. Slade, age 78. Died August 21, 1985. Graduate of University of Tennessee College of Medicine. Member of Washington-Unicoi-Johnson County Medical Association.

new members

The JOURNAL takes this opportunity to welcome these new members to the Tennessee Medical Association.

CAMPBELL COUNTY MEDICAL SOCIETY Yiu-Fel Shih, M.D., La Follette

CHATTANOOGA/HAMILTON COUNTY MEDICAL SOCIETY

John Frank Bryant, M.D., Chattanooga Michael Spencer Greer, M.D., Chattanooga

CONSOLIDATED MEDICAL ASSEMBLY OF WEST TENNESSEE

James E. Levernier, M.D., Jackson

KNOXVILLE ACADEMY OF MEDICINE

Freddie T. Barron, M.D., Knoxville Michael L. Maggart, M.D., Knoxville Jonathan W. Sowell, M.D., Knoxville B. David Wooten, M.D., Knoxville

MAURY COUNTY MEDICAL SOCIETY Peter Mark Seymour, M.D., Columbia

McMINN COUNTY MEDICAL SOCIETY Foy Mitchell, M.D., Athens

MEMPHIS-SHELBY COUNTY MEDICAL SOCIETY

Robert L. Adams, M.D., Memphis Wilburn E. George, Jr., M.D., Memphis David O. Hollis, M.D., Memphis Timothy Kerwin Kreth, M.D., Memphis John D. Rhodes, III, M.D., Memphis Robert A. Sanford, M.D., Memphis Lee S. Stein, M.D., Memphis David L. Stentz, M.D., Memphis

NASHVILLE ACADEMY OF MEDICINE

Brenda Jo Bulka, M.D., Nashville
Robert Earl Handte, M.D., Brentwood
Adrian K. Lamballe, M.D., Nashville
Steven Werner Neubauer, M.D., Nashville
Barbara Joyce Nylander, M.D., Nashville
John B. Plonk, Jr., M.D., Madison
William Russell Ries, M.D., Nashville
Richard Michael Rodriguez, M.D., Nashville
Timothy Porter Schoettle, M.D., Nashville
(Student)

D. Phillips Altenbern, Nashville

RUTHERFORD COUNTY/STONES RIVER ACADEMY OF MEDICINE

Sally Hill Bullock, M.D., Murfreesboro

SEVIER COUNTY MEDICAL SOCIETY *Steven M. Smith, M.D.*, Sevierville

WASHINGTON-UNICOI-JOHNSON COUNTY MEDICAL ASSOCIATION

Mohamed F. Ali, M.D., Johnson City Pravinchandra H. Patel, M.D., Johnson City

personal news

Wood M. Deming, M.D., Jackson, has been inducted as a fellow of the American College of Angiology and was chosen to serve on the Scientific Council, a subsidiary of the angiology group.

NOVEMBER, 1985 727

Augustus H. Frye, M.D., Chattanooga, has been approved for membership in the Arthroscopy Association of North America and has been recommended for membership in the international association.

David Satcher, M.D., president of Meharry Medical College, has been appointed to the National Advisory Research Resources Council of the Division of Research Resources, National Institutes of Health.

Alanson R. Spalding, III, M.D., Jackson, has been inducted as a fellow of the American College of Cardiology.

David G. Stanley, M.D., Oak Ridge, has been certified by the American Board of Surgery in the subspecialty of General Vascular Surgery.

TMA Members Receive AMA Physician's Recognition Award

Twenty-one TMA members qualified for the AMA Physician's Recognition Award during August 1985.

To qualify for the PRA, a minimum of 150 hours of continuing medical education must be earned over a three-year period; 60 of these must be Category 1.

This list does not include members who reside in other states. Names of additional recipients will be published as they are received from AMA.

John R. Adams, M.D., Memphis Reuben A. Bueno, M.D., Nashville James A. Burdette, M.D., Lenoir City John S. Burrell, M.D., Lake City Floyd C. Cooper, M.D., Chattanooga Lisa T. Craft, M.D., Nashville John L. Farringer, Jr., M.D., Nashville Johnny E. Gore, M.D., Antioch Richard E. Hopper, M.D., Chattanooga Richard R. Jost, M.D., Rockwood Elgin P. Kintner, M.D., Maryville Ira E. Lew, M.D., Oak Ridge John H. L. Marshall, M.D., Knoxville Charles S. Mitchell, M.D., Oak Ridge E. Harris Pierce, M.D., Cleveland Robert N. Reynolds, M.D., Nashville Jack T. Roberts, Jr., M.D., Maryville George K. Scholl, M.D., Johnson City Philipp C. Sottong, M.D., Signal Mountain Audrey W. Tuberville, M.D., Memphis Dennis C. Workman, M.D., Nashville

announcements

CALENDAR OF MEETINGS

NATIONAL

	NATIONAL
Dec. 1-4	American Epilepsy Society—Roosevelt Hotel, New York
Dec. 4-7	Cervical Spine Research Society-Hyatt
Dec. 4-8	Hotel, Cambridge, Mass. Clinical Allergy and Immunology for the Practicing Physician (sponsored by Am Acad of Allergy and Immunology)—Epcot Cen- ter, Lake Buena Vista, Fla.
Dec. 5-6	American College of Chemosurgery—Las Vegas Hilton
Dec. 5-8	American Academy of Psychoanalysis— Royal Orleans, New Orleans
Dec. 7-12	American Academy of Dermatology—Las Vegas
Dec. 12-15	National Kidney Foundation—Louisiana Sheraton, New Orleans
Dec. 18-22	American Psychoanalytic Association—Hyatt Capitol Hill, Washington, D.C.
Dec. 21-Jan. 1	Medical-Legal Seminar (sponsored by Pittsburgh Institute of Legal Medicine)—Kaanapali Alii Condominiums, Maui, Hawaii
Jan. 15-18	American College of Cryosurgery—Lake Buena Vista, Fla.
Jan. 16-18	American Laryngological, Rhinological and Otological Society, Southern Section—Hyatt-Disney World, Orlando, Fla.
Jan. 19-23	American Association for Pediatric Ophthalmology and Strabismus—Intercontinental Hotel, Maui, Hawaii
Jan. 19-23	American Society for Neuroradiology— Sheraton Harbor Island, San Diego
Jan. 25-29	American College of Allergists—Hyatt Regency Phoenix Hotel, Phoenix
Jan. 26-Feb. 1	Southern Clinical Neurological Society, Advances in Neurology—Colony Beach and Tennis Resort, Longboat Key, Sarasota, Fla.
Jan. 30-Feb. 1	American Association for the Study of Headache—Marriott's Camelback Inn, Scottsdale, Ariz.

MEDICAL-LEGAL SEMINARS

	Weekly Dec. 2	Weekly			
	Breckenridge	Stowe	Club Med:		
	Copper Mtn.	Sugarbush	Eleuthera		
1	Crested Butte	Sun Valley	Ixtapa		
	Jackson Hole	Vail	Turkoise		
1	Lake Tahoe	Waterville Val.	Disney World		
ľ	Park City	Winter Park	Virgin Isl. &		
	Steamboat Spgs.		Miss. R. (cruises)		

Fee \$175

CURRENT CONCEPT SEMINARS, INC. (since 1980) 3301 Johnson St., Hollywood, FL 33021 (800) 428-6069



DECEMBER, 1985 VOL. 78, NO. 12

The Surgery of Epilepsy

ALLEN R. WYLER, M.D.

The surgery for epilepsy was launched into its modern era by Dr. Victor Horsley in 1886.¹ Dr. Horsley was a neurosurgeon practicing at Queen Square Hospital in London and had been influenced by the work of Hughlings Jackson. Horsley demonstrated that, for many cases of focal epilepsy, a point could be found in the cerebral cortex that would give rise to the seizure, and if that point was excised, the seizures would stop. However, it was not until the 1950s that this type of surgery was popularized by Penfield².⁵ during his tenure at the Montreal Neurological Institute. Although surgery can help control, and may even cure, seizures in many patients, it still remains a grossly underutilized therapeutic option.

Perhaps the most obvious reason for the underutilization of surgery in the treatment of seizure disorders is the introduction of effective anticonvulsants. Prior to 1938 and the introduction of phenytoin (Dilantin), the only good drugs available were phenobarbital and bromides. Now, there are approximately ten excellent anticonvulsants that can control various seizure disorders, but even with excellent monitoring of serum drug levels and aggressive medical management, approximately 35% of patients referred to regional epilepsy centers will not have their seizures adequately controlled.

What defines "adequate control" of seizures remains a highly subjective decision for each individual. For example, one seizure a year is a disaster for an airline pilot, since it will mean the loss of his profession, whereas four seizures a month may mean nothing to a patient who is mentally retarded and institutionalized. Moreover, epileptics who do not have their seizures controlled face risks and barriers not encountered by non-epileptics. For example, there is an associated risk of sudden death from seizures alone, to say nothing of the risk of bodily injury from each tonic-clonic convulsion. Epileptics often find it difficult to obtain employment. a driver's license, or various forms of insurance. Finally, there are various risks to chronically ingesting each of the anticonvulsant drugs, either alone or in combination, i.e., liver dysfunction. Stevens-Johnson syndrome, bone marrow depression, cerebellar atrophy, and the sedative effects of multiple drugs in combination.45

The criteria for surgery⁵⁻⁸ are (1) that the seizures are not adequately controlled with doses of appropriate anticonvulsants within accepted therapeutic ranges. (2) that there is a reasonable

DECEMBER, 1985 751

From the Department of Neurosurgery. University of Tennessee Center for the Health Sciences, Memphis.

Reprint requests to Department of Neurosurgery, University of Tennessee Center for the Health Sciences, 956 Court Ave., Memphis, TN 38163 (Dr. Wyler).

SURGERY OF EPILEPSY/Wyler

chance that the surgery will help control, or cure, the seizures, (3) that there is a reasonable chance that the surgery will not leave the patient with an unacceptable neurologic deficit, and (4) control of the seizures will improve the patient's quality of life.

The workup of a prospective surgical candidate requires first that the epilepsy be confirmed by EEG during several typical attacks. This usually requires a specialized monitoring facility within a regional epilepsy center. 6,7 This type of monitoring is critical for excellent results because the accuracy of localizing and defining the nature of the cortical focus is the most important step in laying out a rational surgical approach. For example, patients who harbor multiple foci or have generalized seizure disorders do not respond well to focal cortical resections, but may benefit from corpus callosum sectioning. Thus, for very difficult diagnostic problems, the implantation of subdural "strip" electrodes may be required.9 These electrodes can be slipped under the temporal lobes or between the hemispheres to record from regions of cortex not "seen" by routine scalp EEG recordings.

In addition, the evaluation should include a CT scan and/or an MRI scan to look for possible anatomic abnormalities that can correlate with the suspected focus.⁶ The results of focal cortical resections improve in cases where such correlations exist. The use of extensive neuropsychologic testing is also very beneficial for determining, preoperatively, cortical deficits.¹⁰ Finally, a WADA test is done on all patients seriously considered for surgery.^{6,7} In this test, a small amount of sodium amytal is injected selectively into each carotid artery, temporarily blocking the functioning of the perfused cortex, thus making it possible to test each hemisphere for speech and memory. This in turn allows the surgeon to determine if the area of the focus is related to either function.

The types of surgery that have yielded the best results are focal cortical resections, hemispherectomies, and sectioning of the corpus callosum. Surgical procedures that have not been as good are stereotaxic deep brain ablations (such as used for Parkinson's disease), and the implantation of cerebellar stimulators.¹¹ The focal resections usually involve removal of part or all of one dam-

aged lobe of the cerebrum, most commonly the temporal lobe. The next most common region is a frontal lobe. The surgery is often done under local anesthesia so that the cortex can be electrically stimulated and thereby determine its function. For example, when resecting the temporal lobe from the speech-dominant hemisphere, multiple sites along the temporal lobe are tested specifically for speech production and recognition before any cortex is removed. This method has resulted in a minimum of neurologic deficits from surgery. Hemispherectomy⁷ is commonly done for patients who suffered a hemispheric infarction at a very young age, and, as a result, usually have a contralateral hemiparesis. In these cases, the surviving hemisphere has taken over the injured brain's function, and it is the damaged cortex that has developed the seizure focus. Patients who have primarily generalized seizures (for which no focus can be found) often respond well to sectioning of the corpus callosum. Recently, this operation has been modified to involve separating only the anterior two-thirds of the corpus callosum, and, therefore, has much less morbidity than earlier, more radical surgeries.

The results of these types of surgery are that 80% to 85% of patients who have focal cortical resections either have a marked reduction of seizures or are cured.5,7 (A cure means that two years following surgery, patients' anticonvulsant medications may be withdrawn completely. All patients remain on some drugs following surgery for at least two years.) Fifteen percent to 20% of patients are not helped significantly, and most of these patients can be identified preoperatively as being less good candidates. Approximately 80% of patients who have a hemispherectomy enjoy an excellent result from surgery.7 Of those patients who undergo corpus callosum sectioning, approximately 60% have a significant reduction of seizures. These people are often the most severely affected. In many cases of corpus callosum sectioning, the seizures continue to occur, but their severity and frequency are quite diminished.

The mortality¹² from these operations is well less than 0.05% and is influenced by the youth and excellent health of the vast majority of patients at the time of surgery, therefore making them excellent surgical risks. There is also a 2% to 5% risk of hemiparesis due to postoperative vasospasm for patients who have focal resec-

tions, a complication that has decreased in recent vears with the introduction of the ultrasonic dissector. Patients who have a temporal lobe removed have a 25% chance of developing a superior quadrantanopsia in the contralateral field of vision. This complication is most often of little functional significance to the patient, and usually goes unnoticed.

Patients who have had extensive postoperative neuropsychological testing¹⁰ will often demonstrate improved overall performance postoperatively, due, in part, to a decrease in anticonvulsant medication that many patients will need after surgery. In many cases, this improved functioning is the result of removing the disruptive effects the epilepsy itself has upon the brain function. Although the primary aim of the surgery is to control seizures and not to modify behavior, it is not uncommon for patients to find fewer temper outbursts and less withdrawal after surgery.

In summary, the surgery of epilepsy can provide excellent results with minimal morbidity and mortality when tailored to the specific seizure disorder of the patient. The evaluation of the prospective surgical candidate, because of its complexity, needs to be undertaken at a regional epilepsy center (like the one now in service at the University of Tennessee) where specialized facilities are available. With appropriate workup and surgery, approximately 85% of patients whose seizures are not controlled with medication can be markedly helped, or in some cases, cured.

REFERENCES

- 1. Horsley V: Brain surgery. Brit Med J 2:670-675, 1886.
- 2. Penfield W, Flanigan H: Surgical therapy of temporal lobe seizures. Arch Neurol Psych (AMA) 64:491-500, 1950.
- 3. Penfield W, Jasper H: Epilepsy and the Functional Anatomy of the Hu-
- man Brain. Boston. Little Brown & Co. 1954.
 4. Glaser GA: Diphenylhyantoin toxicity, in Woodbury DM, Penry JK. Schmidt RP (eds): Antiepileptic Drugs. New York, Raven Press, 1972, pp 219-
- 5. Rapport RL, Ojemann GA. Wyler AR, et al: Surgical management of epilepsy. West J Med 127:185-189, 1977.
- 6. Goldring S: Neurosurgical aspects of epilepsy in adults. in Youmans JR (ed): Neurological Surgery, vol. 6. Philadelphia, W. B. Saunders Co, 1982, pp 3910-3926.
- 7. Green TR. Sidell AD: Neurosurgical aspects of epilepsy in children and adolescents in neurological surgery. in Youmans JR (ed): Neurological Surgery, vol 6. Philadelphia, W.B. Saunders Co, 1982, pp 3858-3909.
- 8. McNaughton EL, Rasmussen T: Criteria for selection of patients for neurosurgical treatment, in Purpura DK, Penry JK, Walter RD (eds): Advances in Neurology, vol 8. Neurosurgical Management of the Epilepsies. New York, Raven Press, 1975, pp 37-48.
- 9. Wyler AR. Ojemann GA, Lettich E, et al: Subdural strip electrodes for localizing epileptogenic foci. J Neurosurg 60:1195-1200, 1984.

 10. Milner B: Psychological aspects of focal epilepsy and its neurosurgical
- management. Adv Neurol 8:299-321. 1975.
- . Van Buren JM, Wood JH, Oakley J, et al: Preliminary evaluation of cerebellar stimulation by double-blind stimulation and biological criteria in the treatment of epilepsy. *J Neurosurg* 48:407-416, 1978.
- 12. Jensen I: Temporal lobe surgery around the world: results, complications and mortality. *Acta Neurol Scand* 52:354-373, 1975.

HELP FOR IMPAIRED PHYSICIANS

Through its Committee on Impaired Physicians, TMA helps doctors who are suffering from alcoholism and drug addiction. The thrust of the program is rehabilitative, not punitive. The Committee is composed of physicians who have special expertise in these areas, some from personal experience. Effective treatment for these illnesses is achieved most easily when the disease is detected early and family, friends, and associates are urged to avoid misguided sympathy which enables the condition to deteriorate.

HELP US TO HELP

Call the TMA Impaired Physician Program (615) 327-2711; outside Nashville call collect. Phone service available around the clock.

Heavy Metal: A New Religion

PAUL KING, M.D.

According to Webster's 3rd New International Dictionary, one can define religion as "the personal commitment to and serving of God or a god with worshipful devotion . . . declared by authoritative teachers . . . and typically the relating of oneself to an organized body of believers."

With the aid of sophisticated marketing techniques, entertainers are elevated to the role of deities, to be worshipped by youth as if they were gods. Long hours are spent listening to heavy metal rock music, with some performers portraying themselves as charismatic leaders preaching sermons in the music lyrics. The young person may then identify with the words of the song ". . . You've given me a new belief (the word belief certainly has religious connotations)/And soon the world will love you sweet leaf" ("Sweet Leaf" by Black Sabbath, Warner Bros. Records). Adolescent patients tell me "sweet leaf" refers to marijuana. Rebellion and hate also are common themes. "Children of the Grave" (by Black Sabbath, Warner Bros.) begins with: "Revolution on their minds/ The children start to march/ Against the world they have to live in/ Oh the hate that's in their hearts." The group leader is a preacher and the young person who becomes involved with the lyrics develops a belief system based on those lyrics. Further knowledge of the personal lives of the stars leads to greater identification (e.g., Led Zeppelin's Jimmy Page's involvement with the occult).

Heavy metal refers to a type of music that developed in England in which the music is loud and powerful, with most of the strength coming from electric guitars. The makeup or facial expressions are either hateful or demonic or have symbols and costumes representing power. Ex-

amples are facial painting to look "evil," as in Kiss; tattoos of a snarling animal or the Grim Reaper on Ozzy Osbourne's body; black leather, chains, and motorcycles in Judas Priest; or a demonic caricature (Eddy) in Iron Maiden. Members of the group Motley Crue wear pentagrams.

Several groups have extremely philosophical verbal overtures, or selected songs on the album creating an atmosphere for the music, such as Iron Maiden's "The Number of the Beast."

"The Number of the Beast"

Woe to you, oh earth and sea,
For the Devil sends the beast with wrath,
because he knows the time is short.
Let him who hath understanding reckon
the number of the beast,
for it is a human number.
His number is six hundred and sixty-six.
by Iron Maiden

Zomba Enterprises, Inc.

Another example is the prologue to the song "In the Beginning" in the album "Shout at the Devil" by Motley Crue:

"Shout at the Devil"

In the beginning the court of good always overpowered the evils of all man's sins. But in time, the nations grew weak, and our cities fell to slums while evil stood strong. In the dust of hell lurked the blackest of hates. For he who men fear awaits you. But now, many many lifetimes later, lay destroyed, beaten down, only the corpses of rebels ashes of dreams and blood stained streets. It has been written, that those who have the youth have the future.

have the future, So come now children of the beast, Be strong and shout at the Devil.

> by Motley Crue Electra Asylum Records

From the Charter Lakeside Hospital, Memphis.

Presented as testimony before the Senate Subcommittee on Communication, Sept. 19, 1985.

Reprint requests to Charter Lakeside Hospital, P.O. Box 341308, Memphis, TN 38134 (Dr. King).

The heavy metal groups themselves state that this is all in fun and they are not into Satan worship. Whether this is true or not is not important. Young people feeling inadequate can have an instant sense of power from the music and identification with the lyrics. Heavy metal portrays the power and glory of evil. Adolescents with emotional and/or drug problems become further involved in delinquent behavior, violence, acts of cruelty, and Satan worship. The glamorization of violence, sex, and drugs leads to further problems with directing young people's attitudes (e.g., "As Nikki Sixx told me, We like to live life to the fullest, and if that means driving our car into a wall at 70 mph or doing three chicks at once, that's okay with us."—Hit Parader, 9/84. In describing their form of music ... "Yeah, apple pie, Chevrolet, tight jeans, Motley Crue, pizza, drugs, and sex,"—Hit Parader, 10/83).

What is missing in today's teenagers identifying so strongly with heavy metal music and the musicians who preach anti-society values? The music represents power and the lyrics give purpose and meaning to those who do not identify with values they were raised with. They often use drugs and alcohol while listening to heavy metal in order to feel the power more acutely and escape into the fantasies portrayed on MTV. Escape alone may be harmless, but drug-induced altered states of consciousness combined with the message of hatred and violence of the heavy metal, is dangerous. There are problems in attitude and changes in thinking, and a set of new values develops. Eighty-three percent of my patients had been listening to heavy metal for several hours a day, and over 50% know most of the words. The drugs, especially psychedelic drugs such as LSD or PCP, make the youngster suggestible to the message of the song; a similar experience is felt when "stoned" on marijuana.

Heavy metal is presented as a religion. Adolescents are particularly vulnerable to this process because their sense of identity has not been formed. Their sense of meaning and purpose in life, their relationship with God, is missing. They sense in themselves a need to rebel against traditional authority. Topics dealt with in heavy metal "religion" are sex, violence, and the pow-

er of evil. The emotional hunger in these young people is then met, in the form of music, chemical use, and promiscuous sexual behavior . . . the crazier, the better. The term "partying" refers to being under the influence of drugs and listening to the heavy metal music and lyrics. Drug dependent teenagers often "party" alone, soaking in the lyrics and allowing it to influence their attitudes.

In heavy metal, evil acts are glorified to new heights in concerts. Gunpowder is lit, people are hanged and placed in coffins, demonic figures are produced, and property is destroyed. There are many stories about portrayal of evil acts on the stage, and the crowd goes wild.

One of the most pathologic forms of evil is the cult leader or deranged person who believes it is all right to hurt others or to kill. The Son of Sam who killed eight people in New York was allegedly into Black Sabbath's music. Ricky Kasso, the teenager in New York who stabbed his friend, took out his eyes and then hanged himself, followed Black Sabbath and Judas Priest. Most recently, the individual identified as the "Night Stalker" has been said by the newspapers to be into "hard drugs" and the music of the heavy metal band AC-DC. This is not to say that the music made them into killers, but that in their insane, drug-crazed thinking they identified strongly with the lyrics of the songs. In my work with chemically dependent and hate-filled teenagers I see evidence of this same process.

Every teenager who listens to heavy metal certainly does not become a killer, but young people who are seeking power over others through the power of evil find a close identification in heavy metal. The lyrics become a philosophy of life, a religion. Young people in our treatment program recovering from drug problems must give up heavy metal for at least a year so that they are not overtaken again by feelings of resentment and hate and the urge to "party." "Partying" is a strong stimulus to go back to that "Highway to Hell" (by AC-DC, Atlantic Recording Corp.) Young teens, who already think too much with their hormones and too little with their heads, succumb to heavy metal bombardment.

DECEMBER, 1985 755

Building Networks: What Business Are You Really In?

JAMES A. GREENE, M.D.

In his well-known book *Megatrends*, John Naisbett has a lot of things to say about the direction American society is taking in this decade, but in essence he has written a whole book on only one subject. That subject is *change*. This paper will consider how to handle the changes that have occurred in health care in the past two years.

Presently, there are few health care administrators who have not faced doubts about the solvency of their facility. More physicians are being overwhelmed by costs and choked by low reimbursements. The traditional prestige and esteem bestowed upon the medical community are being erroded on many fronts and by various enemies, some of them internal. To better understand our present dilemma, we must ask, "How did we get here?"

Where Are We and How Did We Get Here?

Health care, by and large, owes its beginning to charity. In the first half of this century, government and industry were minimally involved in health care financing. The physician's power to change the course of most morbid processes was very limited. Thus, medical charity cost little, but also produced few miracles. Hospitals were often considered a place where people went to die. One important reason for this was that the bulk of the population simply could not afford hospital services.

In the 80-plus years since the turn of the century, tremendous progress has been made not only in medicine, but in the availability of treat-

ment. Technology expanded, hospital support personnel proliferated, and revised building codes and accredited agencies brought better standards for patient care. Since the Great Depression, health care facilities have grown in both size and number. There are two main reasons for this growth: commercial health insurance and government involvement in health care.

Modern health insurance was born in the Great Depression as a means of helping people cope with the cost of health care. Besides providing impetus for the growth of private health insurance, the Depression also stimulated interest in a national health insurance program sponsored by the government. The bill that eventually passed Congress was by no means perfect, but it did provide a broad range of social insurance and public assistance programs. Then in 1965 Congress amended the Social Security Act of 1935 to establish the Medicare and Medicaid programs.

For the first time in history, the cost reimbursement provided by government and private health insurance gave hospitals and other health care providers the income needed to grow and expand services. By the 1970s medicine finally achieved a level of care for the old and poor, as well as benefits for itself, that could scarcely have been dreamed of 50 years earlier.

This dream, however, is now being tempered by a realization that we can no longer afford it. A complex set of forces has driven our health care system to a point apparently beyond our ability to control its costs, and the end seems nowhere in sight.

Another important aspect of today's situation that concerns us all is that people are living longer, increasing their chances of illness. Chronic, long-term illnesses plague many older people, and

Presented as an address at the third annual Symposium on Aging at the East Tennessee Baptist Hospital, Knoxville, April 23, 1985.

Reprint requests to 708 Blount Professional Bldg., Knoxville, TN 37920 (Dr. Greene).

their numbers will continue to grow as the "graying of America" continues. In 1900 there were 3 million people over the age of 65. Now there are 30 million; by the year 2000 there will be over 36 million.

Unfortunately, just as the need is increasing, the funds are diminishing. Legislators and the general public are both concerned with what is often termed "skyrocketing health care costs," and they are demanding big changes to control these costs. The days of unlimited funds are over and we've been kicked out into the sink-or-swim marketplace where the old ways of running a practice, a hospital, or a nursing home will simply *not* work. This means a brand new world for health care.

What Are Our Alternatives?

In this competitive marketplace, our very survival is at stake, and the attitude of "get them before they get you" is therefore more and more prevalent. Evidence of the new health care competition is visible everywhere. Billboards proclaim, "Walk-in convenience medicine—no appointment necessary!" Television commercials show smiling, caring nurses and doctors and nottoo-sick patients.

Yet it is easy to wonder, "What has all this advertising really gotten us?"

The answer is probably, "very little." Some attention maybe, but some of the attention is negative. The cost-conscious public may view advertising as an expense that raises the price of services. In spite of its negative and distasteful aspects, advertising has at least been an effort to adjust to the changes, but there are still many in health care who refuse to accept the fact that change has come, preferring to bury their heads in the sand and wait for obsolescence. Others are trying new marketing strategies, such as aiming services toward the 25- to 54-year-old age groupwhich is recognized as a safe health middle ground. These are the patients with income and private insurance, and therefore they represent survival. Clearly, the rush is on to add services that appeal to this relatively well-heeled segment of our population. On the other hand, no one wants the Medicare patients; no one wants the elderly.

Because of these attitudes, a war is being waged in health care, and the patient is the loser. The patient's dignity and quality of medical care has been reduced by the war that is being waged for their dollars. If physicians and administrators

continue to battle each other in this way, what meaning can we continue to give to our values of "personal touch," "caring," and "healing with heart?"

Why is this happening? It is happening because we have taken the attitude that we are all fighting for the *same piece of the pie*, and we have been so busy fighting for it that the rest of the pie has been ignored.

It's time to start looking elsewhere and to ask "What business are we really in?" To answer this question, our perspective must be broadened. To answer that we are in the nursing home business, or hospital business, or the business of private practice is to engage in narrow and restrictive thinking. It implies attitudes of contraction and protectionism rather than expansion and creativity. The broader perspective requires the answer that you're in the *health care* business. We're all in the health care business—together.

Our Best Alternative Is To Work Together

Are people going to rush out and check into Methodist General like they'd rush to McDonald's for a Big Mac? For obvious reasons people are not going to react to health care commercials as they would to a McDonald's commercial. Given the choice between a heart attack and a Big Mac attack, which would you prefer? People don't want what we have to sell, but they do need what we have to offer. We have a secure market for our services; we need to stop trying to sell people something they don't want and start marketing something they need.

Marketing and selling are words that traditionally have been anathema to physicians, but the changes/trends that are developing in our profession have already rendered our traditional approaches ineffective. In marketing the entrepreneur sees the product through the eyes of the customer. Marketing is the process of uncovering needs, of finding a niche that needs to be filled. Marketing is totally directed toward the customer.

For the health care business, this is very important, because once we start looking at our business through a marketing perspective we begin to think of the patient again and how we can meet his needs.

Specifically, the needs of the elderly tend to be complex and require a multidisciplinary approach. Their needs go beyond medical care into social and emotional needs. They often need housing and financial assistance. They are often depressed and lonely and in need of counseling. Given this fact, how can one hospital, one doctor, one nursing home meet *all* the needs of the elderly? The answer is, of course, it can't. What we have failed to recognize is the potential rewards of developing services to provide these unmet needs, the rest of the pie. But to develop services for the needs of the elderly, we *have* to work together. Thus far, we have not done that very well.

Networking: A Strategy For Coping With The New Trends

If we broaden our perspectives about the business we are in and search for the untapped potentials that effective marketing can supply, we need a strategy for making the transition. The strategy that has this capability is networking and it has great problem-solving potential. Simply stated, networks are people talking to each other, sharing ideas, information, and resources. Networks exist to foster self-help, to exchange information, to change society, and to improve productivity and work life.

Networking is a powerful tool for social action, and it is not really a new concept. Those who would change the world have been doing it for centuries locally, in clusters of like-minded people with a single ideological purpose. It has been successful because self-help groups can bring peers together for mutual assistance in satisfying a common need.

Networking can work both internally and externally. A symposium is a good example of an external network. For an example of internal networking, health care administrators who want to find out more about the needs of the patient should begin internally, with those people who are directly involved in patient care.

Networking Breaks Down Barriers to Allow New Ideas In and Solve Problems

Networking really evolved as a means to break down the barriers of the hierarchy. For centuries, the pyramid structure was the way we organized and managed ourselves. From the Roman army to the organizational charts of hospitals, power and communication have flowed in an orderly manner from the top down, but the hierarchial system is ponderous—too slow and too rigid for today's "Information Age" professionals. Networking evolved because there is a need for greater speed in information exchange and for more flexibility in solving problems.

We have set up many barriers in our business. We assumed the attitude that it is not possible for hospitals, physicians, nursing homes, and public health agencies to work together without competing, so we don't try it. We seem to dwell on self-doubts, trying to hold onto the traditional ways. We develop programs based on past methods and we fail to consider other possibilities.

Change—Alternatives—Looking Beyond the Light

We are in a time of great change. What can we do to adapt to it? Our alternatives are to do nothing, to take the protectionistic attitude and build up an arsenal of high-tech machinery so we can chase after the same piece of the pie as everyone else, or to adopt a marketing point of view—a needs-oriented approach that requires talking and working with each other to solve problems.

We need to rethink our situation. This is an opportunity to challenge ourselves, an opportunity to do things very differently in the future, but it will require that all of us work together, that all of us give a little bit. It will take all of us putting our cards on the table and asking another question . . . "Why not?"

Pelvic Fractures

ANDREW B. RITTENBERRY, M.D. and GRANT MAJOR, M.D.

Introduction

Pelvic fractures comprise a small but significant portion of all hospitalizations for trauma. Severity of bony disruption and propensity for associated injuries mandates a multidisciplined approach in patient management. Early recognition and treatment of shock, management of associated injuries, and prevention of well-defined complications are mandatory to minimize mortality and morbidity.

Case Presentation

A 31-year-old woman was seen at Erlanger Medical Center after having been involved in a motor vehicle accident. She was conscious, and complained of pelvic and right hip pain. Vital signs were blood pressure 110/80 mm Hg, pulse 120/min, respirations 20/min, temperature 98° F. Physical examination of the central nervous system, thorax and abdomen were normal. Fractures were evident in the right femur, right hip and both ankles, and tenderness on pelvic compression suggested fracture. No perineal, rectal or vaginal lacerations were noted, and there was no gross evidence of genitourinary injury; hematuria was noted on catheter placement. X-rays revealed bilateral fractures of the pubic rami, right sacrum, and right acetabulum (type I injury) (Table 1). Fractures of the right femur and ankles were confirmed. Initial laboratory data was normal except for hematuria. Hematocrit was 39%. Surgical and orthopedic consultations were obtained. Intravenous fluids were begun to which the patient responded poorly. Blood pressure decreased to 80/60 mm Hg and a repeat hematocrit was 20%. Intravenous pyelogram (IVP) and cystogram were normal. Because of the diagnosis of hypovolemic shock secondary to multiple fractures, blood transfusions were begun and MAST trousers were applied. Large amounts of blood and fluids were transfused over the next few hours, but the patient continued to respond poorly. Repeat thoracic and abdominal examinations remained negative without evidence of other sites of visceral blood loss. Later that day an arteriogram was performed revealing massive arterial bleeding from branches of the right and left hypogastric arteries. Therapeutic embolization of both hypogastric arteries was accomplished, successfully arresting the hemorrhage, and following successful resuscitation, open reduction with internal fixation of the ankle fractures was conducted on the third hospital day. The pelvic fracture and remaining skeletal injuries were managed with balanced skeletal

From the Department of Surgery, Chattanooga Unit, University of Tennessee College of Medicine.

traction. Since the hematuria cleared spontaneously, it was attributed to renal contusion. Patient discharge was on the 46th hospital day. Rehabilitation extended over several months. A total of 58 units of blood was given during hospitalization.

Discussion

The pelvic ring provides protection for the pelvic viscera, attachment for the muscles, and the transmission of weight bearing forces. Injuries to the pelvis can occur at any age and from various types of violence which impose direct crushing effects, compression, or rotational stresses. Elderly patients with osteoporosis may simply fall and sustain significant injuries, whereas young men are more commonly injured in automobile collisions.

Though most pelvic fractures are simple and not life threatening, when serious injury occurs, it is accompanied by complication rates ranging from 43% to 74%.2 Most complications are the result of associated injuries accompanying pelvic fracture. Our patient illustrates that foremost among these is blood loss. The most critical factor in the outcome of the pelvic fracture patient is his hemodynamic status at time of arrival to the hospital. In Mucha's series the mortality for significant pelvic fracture victims who were hemodynamically stable was 3.4%, but was 42% for those in shock.² Bilateral pubic rami fractures, so-called butterfly fractures, have the highest incidence of associated injuries and mortalities. The source of bleeding is most commonly local and involves injury to retroperitoneal venous channels. Hemorrhage is notoriously excessive if posterior elements are injured, as in sacroiliac joint disruption or fractures through the sacrum. Accompanying fracture to transverse processes of the lumbar vertebra increases the already high potential for bleeding. Less often, lacerations of major arteries or veins are responsible for the

TABLE 1*

CLASSIFICATION OF PELVIC FRACTURES

- I. Comminuted (crush injuries)
 - Three or more major components involved (rami, ilium, acetabulum, sacrum)
 - —Often unstable
 - -Usually combinations (II-A,B,C,D)
- II. Unstable (require immobilization or traction to reduce hemorrhage or maintain position of weight bearing portions of pelvis)
 - A. Diametric fractures with cranial displace-placement of hemipelvis (Froman and Stein, 1967; Malgaigne, 1847)
 - B. Diametric fractures, undisplaced
 - C. Open-book (sprung) pelvis
 - D. Acetabular fractures
- III. Stable (immobilization usually unnecessary except for symptomatic relief)
 - A. Isolated fractures
 - B. Fractures of the pubic rami

heavy blood loss, as in our patient.

It is estimated that up to 28% of patients with pelvic fractures have genitourinary injuries to the kidney, bladder or urethra.³ Thoracic and abdominal injuries also occur, as is typical in blunt trauma. Of particular concern are open perineal and rectal wounds, which complicate the fracture by exposing it to bacterial contamination, mainly fecal flura. High mortality accompanies these injuries.⁴ Neurologic injury, primarily to the lumbosacral plexus or sciatic nerve, has been reported; most are transient, but may be major long-term complications.

The significance of injuries to other organs cannot be overemphasized. In only 10% of deaths in patients with pelvic fractures could the fracture itself be implicated as the chief factor in mortality.²

Pelvic fracture should be suspected in the injured patient who complains of pain in that area or is unable to bear weight without pain. Pain in the back or abdomen may also be a clue. In the unconscious patient with other major injuries, pelvic fracture needs to be ruled out. Physical examination will reveal pain on direct anterior to posterior pressure over the symphysis or iliac wings. Lateral compression should be attempted and the hips taken through a full range of motion. In addition, motion in the pelvic ring should be checked by traction on the lower extremities. Direct observation of the urethral meatus for blood is essential as is a rectal or vaginal examination in which the examiner looks for evidence of blood, hematoma, prostate displacement, perineal wounds, or genitourinary injury. The buttocks and scrotal areas should be observed for ecchymoses. A careful abdominal examination is crucial; the neurologic examination is frequently overlooked, but is also crucial to thoughtful management.

Patients with suspected pelvic fracture should receive aggressive hemodynamic resuscitation and monitoring prior to x-rays or other studies. An initial normal hematocrit, in our experience, has been unreliable in estimating the severity of injury and blood loss. Our patient, who ultimately received 58 units of blood, had an admission hematocrit of 39%. Death from trauma begins in x-ray and only very stable patients should be left alone in the x-ray suites.

The primary goal of treatment is to achieve a hemodynamically stable patient with attention to total body care. Resuscitation of hypotensive patients should be done with large bore IVs and balanced salt solutions. Transfusion demand may be heavy, and the use of large quantities of blood is not uncommon. Patients requiring more than 10 units of blood should be carefully examined to exclude other sources of blood loss. Such patients usually require angiography or laparotomy. The use of MAST trousers is particularly applicable to pelvic fracture.5 Inflation of the garment may stabilize the pelvis by opposing the pelvic ring and may reduce blood loss. The MAST trouser also acts to increase peripheral resistance thus raising systemic arterial blood pressure and improving visceral perfusion. Lower extremity fractures are reasonably well splinted with the MAST suit. The MAST garment may remain in place during x-ray, operation, and postoperatively, but should be well padded if such application is selected. Rapid deflation of the MAST garment is to be avoided.

Assessment of other injuries should include urinalysis, complete blood cell count, chest x-ray, arterial blood gases, and abdominal films. Inlet and outlet views of the pelvis may be desirable. If gross or microscopic hematuria is present, retrograde urethrogram and cystogram should be obtained, as well as an IVP to clear the upper urinary tract. This is a frequently overlooked and potentially catastrophic step in pelvic fracture management.

Pelvic fractures may cause lower abdominal pain and the exclusion of abdominal injuries may be difficult. We have relied on careful physical examination and diagnostic peritoneal lavage in this situation, by use of a supra-umbilical tech-

^{*}From Trunkey, et al.6

nique to reduce false-positive studies. A positive test includes gross blood (greater than 20 cc), more than 100,000 RBCs per millimeter tubed, more than 500 WBCs per millimeter tubed, and effluent via foley or chest tubes. CT scans, when available, are increasingly useful in trauma patient management. If abdominal injury is strongly suspected or if the patient remains unstable following aggressive resuscitation, we believe laparotomy should be performed.

In some instances angiography is indicated to identify major arterial injury and for embolic treatment, but this technique will be useful in less than 10% of all pelvic fractures, and may itself be associated with complications, such as impotence. It should not replace laparotomy in the deteriorating patient.

Pelvic fracture management should include bedrest and graded ambulation in simple, unstable injuries. Pelvic instability is encountered in more destructive injuries. These injuries do not permit weight bearing without pain or deformity. This may be in the form of the "open book" fracture, with wide symphyseal dyastasis. If fractures occur through both rami and the ipsilateral iliac joints or sacrum, then the hemi-pelvis will ride upward. This must be corrected by traction of the lower extremity or by internal or external fixation techniques. The latter have become increasingly popular and are very useful for immediate fixation in unstable fractures, but when in place there is limited access to the patient's abdomen for operation or x-rays. Such studies should be completed, if possible, before the external device is applied. The value of the external fixation device in reducing hemorrhage from the fracture is being evaluated, but remains unproven at this time. A shortcoming of the external fixation device is that the sacroiliac joint may be ineffectively stabilized, requiring separate fixation, as it tends to slip upward when weight is applied to the pelvis in ambulation.

Other problems apt to be encountered are deep vein thrombosis and thromboembolism if the patient is immobile for long periods. Antiembolic hosiery, early ambulation, and minidose heparin are advisable in stable patients. Sepsis from infected hematomas is especially serious and should be anticipated and aggressively treated in open fractures by fecal diversion early in the course of injury. Retroperitoneal abscess is rare but highly lethal. Reabsorption of hematomas can also lead to significant jaundice and in such instances associated biliary injury must be ruled out, especially posttraumatic acalculous cholecystitis. Clinical jaundice may also be associated with sepsis in the trauma patient with pelvic or abdominal injuries.

General care of the injured must include attention to pulmonary toilet and recognition and prevention of adult respiratory distress syndrome, atelectasis, and pulmonary suppuration. Kinetic beds are a definite advantage in these patients, being especially useful if neurologic injury is present.

Lastly, rehabilitation and physical therapy are crucial in destructive pelvic injuries, where hospitalization may average five weeks and overall convalescence six months.

Acknowledgment:

Table 1 is reproduced with permission from the Journal of Trauma (14:913, 1974).

REFERENCES

- Schwartz SI: Principles of Surgery, ed 3. New York, McGraw Hill Book Co. 1979.
- Mucha P, Farnell MB: Analysis of pelvic fracture management. J Trauma 24:379-386, 1984.
- Weems WL: Management of genitourinary injuries in patients with pelvic fractures. Ann Surg 189:717-723, 1979.
- 4. Richardson JD. Harty J, Mohammad A. et al: Open pelvic fractures. J Trauma 22:533-537, 1982
- 5. Batalden DJ, Wickstrom PH, Ruiz E, et al: Value of the G suit in patients
- with severe pelvic fracture. Arch Surg 109: 326-328, 1974.
 6. Trunkey DD. Chapman MW. Lim RC, et al: Management of pelvic fractures in blunt trauma injury. J Trauma 14:913, 1974.

DECEMBER, 1985 763

Without a Quarterback—You Lose!

J. KELLEY AVERY, M.D.

Case Report

An 8-year-old boy was admitted to the hospital by the senior member of a pediatric group with fever, headache, and rash. The child had a previous workup one month earlier for a grand mal seizure disorder. At that time studies were normal, including skull and sinus x-rays, CBC, urine profile, glucose tolerance test, CT scan, and EEG. The child was given phenobarbital 60 mg twice a day until this admission. He had been followed in the clinic and was doing well, with his seizure disorder controlled on phenobarbital.

On admission, his temperature was 103° F with a generalized maculopapular rash. There was no history of tick bite. His admitting diagnosis was febrile illness, probably viral. Following admission, the patient was placed on a clear liquid diet, given antipyretics for his fever, and his phenobarbital

was continued at 60 mg twice a day.

By the second hospital day, the patient had anterior and posterior cervical node enlargement, and the erythema multiforme-type rash persisted, but he had no liver or spleen enlargement nor were his febrile agglutinins elevated. At this point, it was suspected that the child possibly had Stevens-Johnson syndrome due to phenobarbital therapy.

On the third hospital day the child was still febrile, with a sore throat, and the rash had become confluent on his extremities; his liver had enlarged and was slightly tender. He was begun on steroids at 20 mg three times a day, and by the fourth day the child had less fever and felt better, and his liver was smaller. At that time it was again noted that Stevens-Johnson syndrome was the best diagnosis, as the patient had developed edema on his feet and hands, and anterior and posterior cervical nodes and his rash persisted. By the ninth hospital day the examination of the child revealed generalized lymphadenophathy, a sore mouth, and persistent fever.

On the 11th hospital day, with the persistence of the fever and rash, the phenobarbital, which had been continued because of the history of grand mal seizures, was stopped. By the 13th hospital day, the patient looked much better; his desquamation was superficial, he seemed more alert, and his temperature was normal.

The patient remained hospitalized for a total of 47 days. By the end of this time his rash had cleared and he progressed to a full recovery.

Loss Prevention Comments

The "system failure" in this case was the lack of communication among members of this pediatric group practice about a seriously ill patient. It was a pure oversight that the phenobarbital was continued for 11 days after admission to the hospital. Had all the physicians making rounds on this patient really taken personal interest in him, carefully reviewing the record, including his medications, it is inconceivable that this could have happened. The "system" of communication between colleagues fell apart here and produced this very large loss.

An additional problem here seems to be the failure to inform the patient's family about possible complications of phenobarbital therapy. The record did not indicate that the patient's family had been made aware that a rash could occur with phenobarbital and been instructed to stop the medicine in that event. Here the AMA's PMI (Patient Medication Instruction) sheets are very useful. These sheets are available on order directly from the AMA.

Dr. Avery is medical director of State Volunteer Mutual Insurance Company.

Tuberculosis in Nursing Homes

H. R. ANDERSON, M.D.

Tuberculosis in Tennessee in the mid-1980s is predominately an illness of older Tennesseans. In the 1920s, 30s, and 40s tuberculosis occurred in younger Tennesseans, and even as recently as 1962 only 23% of the new cases were in patients over age 65. We have been pleased to see the number of newly reported cases of tuberculosis drop from 1,033 in 1975 to 601 in 1984, but of those 601 patients, 79.9% were 45 years of age or older, 52.4% were 65 or older, and only 3.8% were less than 25 years of age. If one looks at the age group 75 to 84, 22.8% of the 601 cases were in this age group and 52 (8.75%) of the patients were 85 years or older.

In the past several years, Tennessee has had 30 to 41 cases of pulmonary tuberculosis reported each year among patients in nursing homes or who had been in a nursing home just prior to transfer to the hospital where the diagnosis was made. In 1982, when 41 cases were reported from nursing homes, the case rate was 15.8 per 100,000 for all individuals in Tennessee, 69.9 for Tennesseans age 65 and older, and 184.3 for nursing home residents. Persons 65 years of age or older living in Tennessee in 1982 had about a four and one-half times greater chance of developing pulmonary tuberculosis than the general population. Furthermore, for nursing home residents, most of whom are over 65 years of age, chances of developing tuberculosis were about two and onehalf times that of all other Tennesseans age 65 or older. In 1982, there were 251 licensed nursing homes in Tennessee with 26,208 staffed beds, of which 24,611 were occupied on Dec. 31, 1982.1

Conventional wisdom regarding tuberculosis in the elderly has been that most individuals over

65 years of age have been infected with the tubercle bacillus 40 or 50 years previously, when tuberculosis was much more prevalent in the state. Many of these individuals did not develop clinical disease at the time the infection occurred, but continued to harbor the organisms. Forty years ago tuberculin skin test surveys demonstrated as many as 80% of young adults to be tuberculin positive, although most were without clinical disease. It was logical therefore to believe that a major portion of the elderly individuals admitted to a nursing home would still be tuberculin reactors. However, nursing home regulations in Tennessee do not require tuberculin testing of individuals prior to admission to nursing homes. Many of these individuals are screened with a chest x-ray, and a skin test may not be done if the x-ray is "negative." When tuberculin skin testing showed that 35% or more of Tennessee nursing home residents had a positive reaction, it was assumed that these individuals had been positive since their youth, and it was further concluded that when new cases of tuberculosis developed in nursing homes, they developed as a result of recrudescence of an old dormant infection.

Recent information indicates that the above assumptions may not always have been correct. Stead et al² made some interesting observations regarding nursing home residents in Arkansas, reporting only 12% of 12,196 newly admitted residents to Arkansas nursing homes were tuberculin positive, as compared to 20.8% of 13,441 residents who were first tested more than one month (median 30 months) after their admission to the nursing home. They acknowledged that this was in contrast to previously held medical opinion that as many as 30% to 35% of newly admitted nursing home residents would be tuberculin positive, and that virtually all cases of tuberculosis developing in nursing homes were the result of recrudescence of old infection in these tuberculin positive individuals. Their findings indicated that a significant number of nursing home patients either were infected with tubercule bacilli

765 DECEMBER, 1985

From the Division of Tuberculosis Control, Tennessee Department of Health and Environment, Nashville.

for the first time after their admission to the nursing home, or were re-infected after becoming immunologically naive and susceptible to infection for a second time.

The Division of Tuberculosis Control is particularly concerned about tuberculosis in our elderly nursing home population. Based on these figures and information given above, we believe that physicians and nursing home administrators in the state will also be concerned and will want to require more extensive screening for the individuals seeking admission to Tennessee nursing homes. The current regulations require that individuals not be admitted to nursing homes if they have a communicable disease, but they do not spell out how to screen to exclude infectious tuberculosis. It is conceivable that on occasion the patients are deemed not to have tuberculosis, based on either a history and physical examination, a one-step multipuncture tuberculin test, or a chest x-ray.

It is likely that nursing home regulations will be amended in the future to require more specific screening of patients prior to admission. Even though all of the following are not required under current nursing home regulations, the Tuberculosis Control Division recommends that physicians and administrators of nursing homes in the state voluntarily increase screening and surveillance procedures regarding tuberculosis. To this end, we recommend that:

- Before admission or employment, each resident or employee who does not have evidence documenting a recent prior "positive tuberculin test" receive a 5 TU PPD Mantoux tuberculin skin test, utilizing the so-called two-step procedure.
- All residents have a chest x-ray not longer than 30 days prior to admission to a nursing home to exclude tuberculosis. We also recommend that all prospective employees found to have a positive tuberculin skin test have a chest x-ray to exclude infectious tuberculosis before they are hired. If tuberculosis is not found on these x-rays, these tuberculosis positive individuals applying for admission to the nursing home or the prospective employees should be considered for preventive treatment as recommended in the joint statement of the American Thoracic Society and the Centers for Disease Control.3
 - All tuberculin positive residents, even

though their chest x-ray may have been negative and they were not placed on preventive therapy, should have their charts flagged in a prominent place, indicating they are positive tuberculin reactors. If they develop unexplained or persistent pulmonary symptoms while in the nursing home, they should be promptly evaluated for tuberculous disease. When tuberculous disease is found in such individuals, they should be transferred to a general hospital and put in isolation until they have received sufficient antituberculous medication to render them noninfectious (usually two to four weeks of appropriate drug therapy).

• Tuberculin negative nursing home employees should be skin-tested annually, and those who convert from negative to positive should be x-rayed and considered for preventive therapy.³

It is unlikely that we will be able to prevent the development of occasional cases of tuberculosis in our nursing homes even if we adopt all of these methods, but we should reduce the incidence and identify cases promptly enough to reduce transmission.

It should be understood that individuals who have had clinical tuberculosis in the past, have completed an adequate course of therapy, and are considered by their physicians as no longer having infectious tuberculosis can be admitted to nursing homes under the current regulations. It should further be understood that individuals can be admitted to nursing homes if they have been diagnosed in the recent past as having tuberculosis, have been on appropriate antituberculous drug therapy long enough (usually two to four weeks) to render them noninfectious, and continue and complete their antituberculous medication.

If there are questions about the material presented above, contact the Division of Tuberculosis Control of the Tennessee Department of Health and Environment, telephone (615) 741-7241, or by mail at 100 9th Ave. North, Nashville, TN 37219-5405.

REFERENCES

1. Center for Health Statistics, Tennessee Department of Health and Environment. Nashville.

2. Stead WW, Lofgren JP, Warren E, et al: Tuberculosis as an endemic and nosocomial infection among the elderly in nursing homes. N Engl J Med 312:

3. Treatment of Tuberculosis and Other Microbacterial Diseases. Joint Statement of the American Thoracic Society and the Centers for Disease Control. Am Rev Respir Dis 127:790-796, 1983.

president's page



CLARENCE R. SANDERS

'Tis the Season . . .

This is the time of the year that I like best. I actually look forward to the hustle and the bustle of Christmas shopping, the seemingly endless lists of "things to do and things to buy," the mysterious aromas emanating from the holiday baking and cooking, and yes, even the general confusion which reigns supreme in most of our homes at this time, plus the hundred and one other preparations which invariably accompany the season. I love to hear Bing Crosby singing "I'll Be Home for Christmas," and "White Christmas," and all of the other beautiful music of Christmas. This is a time for families and for coming together with those you love and a time when long-honored family traditions once again are an integral part of the master plan, for through the years they have become almost as special as the day itself. The air fairly crackles with excitement and anticipation and almost everyone you meet seems to be filled to bursting with the spirit of the holidays. Goodwill abounds and everything seems to be right with the world. And, for most of us, it is.

Yet, there is a dark side to the holiday season. An obviously cynical person once observed that "Christmas is the day into which we try to crowd all the long arrears of kindliness and humanity of the whole year." I would hope that I am not guilty of such a practice; but, if I am or you are, then what better time to make amends. Take a little time from your own observance of the season and look around you. I dare say it won't take you long to find ways to share your blessings with others not so fortunate. There are far too many children who won't have their stockings filled to the brim by a benevolent or doting Santa Claus. There are far too many elderly people who won't receive a Christmas present, or, in far too many instances, even a visit from those they love. There are far too many people who won't have sufficient food, proper clothing, or even adequate shelter on that most glorious of days, or any other day, for that matter. In our so-called land of plenty, there is unbelievable need.

It is somehow comforting at this special time of reflection and thanksgiving to know that this is also a time for new beginnings. The old year is drawing to an end and once again we have the unique opportunity to start afresh with a brand new year just waiting to be lived. Just how we live it is pretty much up to us. We can waste it, as we sometimes do, or we can strive to make it count for something worthwhile. My wife, June, and our children join me in wishing for you and your families a very Merry Christmas and a New Year that is filled with happiness and contentment. Charles Dickens' immortal little character, Tiny Tim, expressed my own sentiments at this time far better than I am able to when he simply said to one and all: "God Bless Us Everyone."

clarence R Sanders MP

journal of the tenne*sse*e medical arraciation

PUBLISHED MONTHLY

DEVOTED TO THE INTERESTS OF THE MEDICAL PROFESSION OF TENNESSEE

OFFICE OF PUBLICATION: 112 LOUISE AVENUE, NASHVILLE, TN 37203

JOHN B. THOMISON, M.D., EDITOR

ADDISON B. SCOVILLE, JR., M.D., ASSOCIATE EDITOR JEAN WISHNICK, MANAGING EDITOR

Acceptance for mailing at special rate of postage provided for in Section 1103, Act of October 3, 1917. authorized July 15, 1932

Copyright for protection against republication. Journals of the American Medical Association and of other state medical associations may feel free to quote from this Journal whenever they desire merely giving credit to this publication

Address papers, discussions and scientific matter to John B Thomison, M.D., Editor, P.O. Box 70, Nashville, TN 37202

Address organizational matters to L Hadley Williams, Executive Director, 112 Louise Avenue, Nashville, TN 37203

COMMITTEE ON SCIENTIFIC AFFAIRS

OSCAR M. McCALLUM, M.D., Chairman, Henderson SIDNEY L. BICKNELL, M.D., Jackson CLAUDE H. CROCKETT, JR., M.D., Bristol WINSTON P. CAINE, M.D., Chattanooga TED W. HILL, M.D., Gallatin FRANCIS W. GLUCK, JR., M.D., Nashville JOHN B. THOMISON, M.D., Nashville, Ex-Officio

DECEMBER, 1985

editorials

Giving, Getting, and Forgetting

Looking for something to give the kiddies this Christmas? How about a 13 inch vinyl Baby Jesus doll with starry eyes and a look of wisdom a nontoxic, nonflammable baby with a removable halo that glows in the dark? You can acquire this little jewel, complete with wooden manger and a dress with a little cross on the front for only \$31.50. What's more, Baby Jesus comes in three styles—Anglo, black, and Hispanic. "I think that people are getting to the point where they want something to believe in again," said its designer, "and I believe anyone who is a Christian would want one." If being a Christian is tied to ownership of this creation of Heavenly Dolls, Inc., access to Heaven will be severely restricted, as only 10,000 are projected to be manufactured this year.

How sad. What troubles me most is that the dolls will probably sell. I must confess the philosophy of the designer seems muddled, but I suppose one shouldn't expect much from anyone who offers the Baby Jesus in three colors and leaves out the Jews. Though there are possibly options as to what one might believe about the race or sex of God, the Baby Jesus was after all a real little Jew who was born in a real cave in a real town in Judea approximately two thousand years ago. I doubt that He had either a look of real wisdom or a real halo, plastic or othewise, and the only stars in his eyes were His baby tears. If God had wanted to come with a bang, He could have. He didn't choose to, but rather chose to come as a baby born to a poor family of a despised race in an impoverished land. But the Baby Jesus was a real baby, not some phony imitation of one. Whatever God may do, it is real, and not plastic.

I'm sure the Baby Jesus doll was designed and created out of devotion to both God and little children, and will doubtless be bought and bestowed for the same reasons. But if it is to fulfil a need for something to believe in, what will that belief be? One can work around the hoax of Santa Claus, as my father did when he told me after I had known for two or three years, incidentally, that there was no such animal—that Santa Claus embodied the spirit of giving. But what could be the excuse for a tri-color Baby Jesus?

We live in a plastic world, a world in which one does indeed need something to believe insomething real, and not plastic. Some are even looking for it. At the same time, there is no inherent virtue in living instead in a world of dust and Roman oppression, as the real Jesus did, or for that matter in a Roman palace or a temple, either. The need in all of those was-is-just as great. Augustine observed that in every man (he included women) there is a God-shaped void, and man is restless until it is filled. God's filling of that void is what Christmas is about.

Though in fact He was not, if the Baby Jesus were to be born today, he might indeed be born black or Hispanic. He would be born black or Hispanic for the same reason that He was born Jewish two thousand years ago. It was not by accident, but to show the world that, as a little black girl once pointedly remarked, "God don't make no junk." In this season of feasting and giving and getting, it is good to remind ourselves occasionally that for many in our world—even perhaps most—it is a time of famine, being forgotten, and trying to forget. Though they are likely to need convincing, God loves them, too.

Merry Christmas.

J.B.T.

An Ounce of Prevention

It has sometimes been observed that creative people are less bound by convention than others. I am not convinced that is true; I suspect it may simply be that when they are being unconventional, the creative are simply more visible at it. I think it is just that the stuffier the society is in which they live, the more they may seem to flout it, and not that they are intentionally flaunting their unconventionality. Take Giuseppe Verdi, for instance. He kept 19th century European, and especially Italian, tongues wagging by living most of his adult life with a lady with whom he had never officially tied the knot. Giuseppina Straponi gradually became accepted as Madam Verdi only partly because both she and Verdi considered that she was; it was likely more because of Verdi's magnificent music and his patriotic zeal for a unified Italy. On the other hand, had he not been Verdi, few tongues would have wagged, because few people would have cared. Today, Verdi or not, not only would tongues not wag, but scarcely an eye would be batted, over that or anything else—unless, of course, the wagee is Miss America.

Even the Maestro had his problems, though. One of his masterworks, *La Traviata*, has to do with a "fallen woman." Now fallen women were not considered a fit subject for display on the stage—or at least the Italian stage—a hundred years or so ago, and so Verdi had to take his opera to Paris, where, as Professor Henry Higgins said, they don't care what you do, actually, so long as you pronounce it properly. Even in Paris it was considered a bit risque—not the words mind you; only the subject. My, how times have changed! (Perhaps I need to explain for the

benefit of our younger readers what a fallen woman is.)

It must come as a shock to both political friends and foes of Senator Albert Gore, Jr., not to mention the Senator himself, to hear him categorized as a right-wing Jerry Falwell type reactionary. Yet that is precisely how he has lately come to be viewed by moguls of the music industry, thanks to the activities of his wife, Tipper, who in league with other "Washington Wives" is trying to rid the airways of some of the lurid lyrics that clutter them these days, some of them sung to decidedly catchy tunes, which makes their influence even more insidious. Back in 1697 William Congreve wrote that "music has charms to soothe a savage breast" (sometimes misquoted as "beast"). We think of the music of the bards as soothing, but even then a lot of their words were calculated to inflame the soul to lust, though generally in more genteel terms—more a gentle wooing than an open invitation. It was also a whole lot more intimate, since a 17th century bard's voice, even at maximum, didn't carry very far. Today, the washwater from dirty linen is splashed abroad as Son-et-Lumiere.

Music may be able to soothe a savage breast, but it can just as well make a savage beast of a normally (or perhaps more accurately, a customarily) placid soul. "The Star Spangled Banner" and "God Save the Queen" (or King, as appropriate) are more or less soothing, but "La Marseillaise" is a rousing barn-burner. Of course, in their hour of need the Americans and the English turn not to their national anthems, but to the likes of "Rule, Brittania" and "The Marine Hymn," or perhaps Sousa marches. A lot of the young on both sides of the Atlantic are turning to "heavy metal" music, or worse.

In response to pressure from their constituents, among them Tipper's group, our lawmakers are conducting an inquiry into our trashed airways. In this issue of the *Journal* we carry the testimony of one of our Tennessee doctors before a Senate panel, in which he addresses the effects on our youth, on more precisely the disaffected among our youth, of that sort of music, so called. While the article, which is also published in the *Congressional Record*, may not tell you anything you didn't already know, it might, and you need to read it. You need also to consider what should be done about it—what you should do about it.

Censorship is a two-edged sword, since its application invariably leads to excesses. The best

DECEMBER, 1985 773

example of how such things work is a statement by one of the Supreme Court justices that he couldn't define obscenity, but he certainly knew it when he saw it. Since one man's meat is another man's poison, you can see where that sort of thinking can lead. On the other hand, public tolerance can be stretched only so far, and unless some sort of curbs are instituted, eventually it snaps back with a vengeance, and one is in danger of living in a police state. We have been there before with the prohibition of alcohol, from which we didn't learn much. The ideal situation, of course, would be self-regulation, which worked for a while in the movie industry until sentiment required a loosening of standards, "they" said. But did it?

"The public" almost never speaks out on anything until a crisis has developed, and then suddenly the media and the lawmakers find they have misread public sentiment. I have the distinct impression that "the public" never had in mind loosening the moral standards to the extent a vocal, and visible, minority has succeeded in attaining, any more than the public has in mind the tight strictures that will be imposed by another equally vocal and visible minority when public tolerance has run out. Hence the pendulum. An ounce of mild prevention, therefore, is worth the pound of cure that would in fact likely be a therapeutic paradox. If Mrs. Gore and her group succeed, they just might head off an impending Inquisition. It seems to me that instead of jeering, the music industry ought perhaps to be cheering her on, though perceiving that might put a strain on their mentation. Anyway, I don't believe Tipper, or the Senator either, need lose a whole lot of sleep over their animosity.

J.B.T.



A Note on Varicose Veins

To the Editor:

A conflict often arises for the physician between removal of symptomatic varicose veins and preserving the saphenous vein for later coronary artery or femoral artery bypass. Many physicians have been reluctant to advise ligation and stripping of varicose veins even when these are symptomatic because of this reservation.

Actually, a varicose saphenous vein is useless for bypass; therefore, since some substitute must be found, it should be removed under these circumstances.

If the saphenous vein itself is not involved in the varicose process it should be left intact. This is contrary to the practice of former years but is increasingly accepted as standard practice. My experience certainly confirms the wisdom of this approach.

It is incumbent on us as surgeons not to remove normal saphenous veins during the vein stripping operation. Such removal serves no useful purpose and does deny later access to the graft of choice in many patients. With this in mind there should be less reluctance to recommend surgical treatment of varicose veins when symptoms indicate the need for it.

Malcolm R. Lewis, M.D. 1800 Hayes St. Nashville, TN 37203

REFERENCE

1. Dale WA: Management of Vascular Surgical Problems. New York, McGraw Hill, 1985, p 448.



Hazel E. Atherton, age 72. Died October 8, 1985. Graduate of University of Tennessee College of Medicine. Member of Memphis-Shelby County Medical Society.

Philip C. Elliott, age 81. Died June 14, 1985. Graduate of University of Iowa College of Medicine. Member of Nashville Academy of Medicine.

Martin S. Munson, age 63. Died September 19, 1985. Graduate of University of Minnesota Medical School. Member of Coffee County Medical Society.

Joseph L. Raulston, age 83. Died October 21, 1985. Graduate of University of Tennessee College of Medicine. Member of Knoxville Academy of Medicine.

new member

The JOURNAL takes this opportunity to welcome these new members to the Tennessee Medical Association.

CHATTANOOGA-HAMILTON COUNTY MEDICAL SOCIETY

Charles M. Davis, M.D., Chattanooga Shahul J. Majee, M.D., Chattanooga Charles Rodney Susong, M.D., Hixson Joseph T. Watlington, M.D, Chattanooga

KNOXVILLE ACADEMY OF MEDICINE William R. Mixon, M.D., Knoxville

MEMPHIS-SHELBY COUNTY MEDICAL SOCIETY

Robert J. Howse, M.D., Memphis

MONTGOMERY COUNTY MEDICAL SOCIETY Barbara A. Allison-Bryan, M.D., Clarksville Stephen W. Kent, M.D., Clarksville

TMA Members Receive AMA Physician's Recognition Award

Sixteen TMA members qualified for the AMA Physician's Recognition Award during September 1985.

To qualify for the PRA, a minimum of 150 hours of continuing medical education must be earned over a three-year period; 60 of these must be Category 1.

This list does not include members who reside in other states. Names of additional PRA recipients will be published as they are received from AMA.

Charles H. Alper, M.D., Chattanooga Dean E. Brenner, M.D., Nashville Clifton R. Cleaveland, M.D., Chattanooga Morris D. Cohen, M.D., Memphis James P. Davis, Jr., M.D., Chattanooga Cornell C. Faquin, M.D., Memphis Ronald C. Kelly, M.D., Bristol Clarence B. Marsh, M.D., Chattanooga Michael A. McAdoo, M.D., Milan James W. Menzie, M.D., Nashville James R. Noonan, M.D., Dyersburg James A. Ramsey, M.D., Nashville Gade S. Rao, M.D., Savannah E. Conrad Shackleford, M.D., Hendersonville Rodrigo V. Tiongson, M.D., Celina Ralph E. Wesley, M.D., Nashville

perronal news

The following TMA members have been elected to Fellowship in the American College of Radiology: *John M. Dobson, M.D.*, Memphis, and *Daniel R. Ramey, III, M.D.*, Memphis.

announcement/

CALENDAR OF MEETINGS

NATIONAL

Jan. 15-18	American College of Cryosurgery—Lake Buena Vista, Fla.
Jan. 16-18	American Laryngological, Rhinological and Otological Society, Southern Section—Hyatt-Disney World, Orlando, Fla.
Jan. 19-23	American Association for Pediatric Oph- thalmology and Strabismus—Intercontinen- tal Hotel, Maui, Hawaii
Jan. 19-23	American Society for Neuroradiology— Sheraton Harbor Island, San Diego
Jan. 25-29	American College of Allergists—Hyatt Regency Phoenix Hotel, Phoenix
Jan. 26-Feb. 1	Southern Clinical Neurological Society, Advances in Neurology—Colony Beach and Tennis Resort, Longboat Key, Sarasota, Fla.
Jan. 30-Feb. 1	American Association for the Study of Headache—Marriott's Camelback Inn, Scottsdale, Ariz.
Feb. 2-7	American College of Medical Imaging—Caesar's Tahoe, Lake Tahoe, Nev.
Feb. 5-8	American Federation for Clinical Research—Southeastern Region—Hilton & Towers, New Orleans
Feb. 8-10	Mardi Gras Anesthesiology Update (sponsored by Tulane Med Ctr)—Hotel Meridien, New Orleans
Feb. 11-16	Pediatric Update 1986 (sponsored by Long Island Jewish-Hillside Med Ctr)—Camino Real, Cancun, Mexico
Feb. 15-20	Society of Thoracic Radiology—Newport Beach, Calif.
Feb. 19-20	American Orthopedic Society for Sports Medicine—Convention Center, New Orleans
Feb. 20.25	American Academy of Orthopedic Sur

geons—Convention Center, New Orleans

TENNESSEE MEDICAL ASSOCIATION

151ST ANNUAL MEETING
April 9-12, 1986
Opryland Hotel, Nashville

DECEMBER, 1985 775

TMA

continuing medical education opportunities

The continuing medical education accreditation program of the TMA has full approval by the Accreditation Council for Continuing Medical Education. An accredited institution or organization may designate for Category 1 credit toward the AMA Physician's Recognition Award those CME activities that meet appropriate guidelines. If you wish information as to how your hospital may receive accreditation, write: Director of Continuing Medical Education, Tennessee Medical Association, 112 Louise Ave., Nashville, TN 37203.

IMPORTANT NOTICE

Published in this section are all educational opportunities which come to our attention which might be of interest to our membership. As some of these are very long, full year schedules, and others are detailed descriptions of courses, in order to conserve space, most of them will be published in only one issue of the Journal.

IN TENNESSEE

VANDERBILT UNIVERSITY

Clinical Training Program

Opportunities for advanced clinical education for physicians in family practice and in various subspecialties have been developed by the School of Medicine and the Division of Continuing Education of Vanderbilt University. The practicing physician, with the guidance of the participating department chairman, can plan an individualized program of one to four weeks to meet recognized needs and interests. The experience will include contact with patients, discussion with clinical and academic faculty, conferences, ward rounds, learning individual procedures, observing new surgical techniques, and access to excellent library resources. Experience in more than one discipline may be included.

Participating Departments and Divisions

Allergy and Immunology Samuel Marney, M.D.
Anesthesiology
Continue Continue III M.D.
Cardiology Gottlieb C. Friesinger, III, M.D.
Chest Diseases
Clinical Pharmacology John A. Öates, M.D.
Ocrmatology Lloyd E. King, M.D.
Diabetes
Diabetes
Endocrinology
Gastroenterology
General Internal Medicine A. W. Anderson Spickard, M.D.
Hematology
Medicine
Neurology
Obstetrics and Gynecology Lonnie S. Burnett, M.D.
Desclare and Gynecology
Oncology
Orthopedics
Pathology
Pediatrics
Preventive Medicine
reventive Medicine
svchiatry
Radiology A. Everette James, Jr., Sc.M., J.D., M.D.
Sychiatry Michael H. Ebert, M.D. Adiology A. Everette James, Jr., Sc.M., J.D., M.D. Computed Tomography May I Shaff M.D. May I Shaff M.D.
Computed Tomography Max I. Shaff, M.D.
Computed Tomography
Computed Tomography . Max I. Shaff, M.D. Magnetic Resonance Imaging . C. Leon Partain, M.D., Ph.D. Nuclear Medicine . Martin P. Sandler, M.D.
Computed Tomography . Max I. Shaff, M.D. Magnetic Resonance Imaging . C. Leon Partain, M.D., Ph.D. Nuclear Medicine . Martin P. Sandler, M.D.
Computed Tomography Max I. Shaft, M.D. Magnetic Resonance Imaging C. Leon Partain, M.D., Ph.D. Nuclear Medicine Martin P. Sandler, M.D. Ultrasound Arthur C. Fleischer, M.D.
Computed Tomography Max I. Shaft, M.D. Magnetic Resonance Imaging C. Leon Partain, M.D., Ph.D. Nuclear Medicine Martin P. Sandler, M.D. Ultrasound Arthur C. Fleischer, M.D. Renal Diseases Richard L. Gibson, M.D.
Computed Tomography Max I. Shaft, M.D. Magnetic Resonance Imaging C. Leon Partain, M.D., Ph.D. Nuclear Medicine Martin P. Sandler, M.D. Ultrasound Arthur C. Fleischer, M.D. Renal Diseases Richard L. Gibson, M.D. Rheumatology Theodore Pincus, M.D.
Computed Tomography Max I. Shaft, M.D. Magnetic Resonance Imaging C. Leon Partain, M.D., Ph.D. Nuclear Medicine Martin P. Sandler, M.D. Ultrasound Arthur C. Fleischer, M.D. Renal Diseases Richard L. Gibson, M.D. Rheumatology Theodore Pincus, M.D. surgery
Computed Tomography Max I. Shaft, M.D. Magnetic Resonance Imaging C. Leon Partain, M.D., Ph.D. Nuclear Medicine Martin P. Sandler, M.D. Ultrasound Arthur C. Fleischer, M.D. Renal Diseases Richard L. Gibson, M.D. Rheumatology Theodore Pincus, M.D. surgery
Computed Tomography Max I. Shaff, M.D. Magnetic Resonance Imaging C. Leon Partain, M.D., Ph.D. Nuclear Medicine Martin P. Sandler, M.D. Ultrasound Arthur C. Fleischer, M.D. Renal Diseases Richard L. Gibson, M.D. Rheumatology Theodore Pincus, M.D. surgery Cancer Chemotherapy Vernon H. Reynolds, M.D.
Computed Tomography Max I. Shaff, M.D. Magnetic Resonance Imaging C. Leon Partain, M.D., Ph.D. Nuclear Medicine Martin P. Sandler, M.D. Ultrasound. Arthur C. Fleischer, M.D. Renal Diseases Richard L. Gibson, M.D. Rheumatology Theodore Pincus, M.D. Surgery Cancer Chemotherapy Vernon H. Reynolds, M.D. General. John L. Sawyers, M.D.
Computed Tomography Max I. Shaff, M.D. Magnetic Resonance Imaging C. Leon Partain, M.D., Ph.D. Nuclear Medicine M.D. Ultrasound Arthur C. Fleischer, M.D. Renal Diseases Richard L. Gibson, M.D. Rheumatology Theodore Pincus, M.D. Rurgery Cancer Chemotherapy Vernon H. Reynolds, M.D. General John L. Sawyers, M.D. Neurological George Allen, M.D.
Computed Tomography Max I. Shaff, M.D. Magnetic Resonance Imaging C. Leon Partain, M.D., Ph.D. Nuclear Medicine Martin P. Sandler, M.D. Ultrasound Arthur C. Fleischer, M.D. Renal Diseases Richard L. Gibson, M.D. Rheumatology Theodore Pincus, M.D. surgery Vernon H. Reynolds, M.D. General John L. Sawyers, M.D. Neurological George Allen, M.D. Ophthalmology James H. Elliott, M.D. Ophthalmology James H. Elliott, M.D.
Computed Tomography Max I. Shaff, M.D. Magnetic Resonance Imaging C. Leon Partain, M.D., Ph.D. Nuclear Medicine Martin P. Sandler, M.D. Ultrasound Arthur C. Fleischer, M.D. Renal Diseases Richard L. Gibson, M.D. Rheumatology Theodore Pincus, M.D. surgery Vernon H. Reynolds, M.D. General John L. Sawyers, M.D. Neurological George Allen, M.D. Ophthalmology James H. Elliott, M.D. Ophthalmology James H. Elliott, M.D.
Computed Tomography Max I. Shaff, M.D. Magnetic Resonance Imaging C. Leon Partain, M.D., Ph.D. Nuclear Medicine Martin P. Sandler, M.D. Ultrasound, Arthur C. Fleischer, M.D. Renal Diseases Richard L. Gibson, M.D. Rheumatology Theodore Pincus, M.D. Surgery Cancer Chemotherapy Vernon H. Reynolds, M.D. General, John L. Sawyers, M.D. Neurological, George Allen, M.D. Ophthalmology James H. Elliott, M.D. Oral H. David Hall, D.M.D.
Computed Tomography Max I. Shaff, M.D. Magnetic Resonance Imaging C. Leon Partain, M.D., Ph.D. Nuclear Medicine Martin P. Sandler, M.D. Ultrasound Arthur C. Fleischer, M.D. Renal Diseases Richard L. Gibson, M.D. Rheumatology Theodore Pincus, M.D. Rurgery Vernon H. Reynolds, M.D. General John L. Sawyers, M.D. Neurological George Allen, M.D. Ophthalmology James H. Elliott, M.D. Oral H. David Hall, D.M.D. Otolaryngology Ronald Cate, M.D.
Computed Tomography Max I. Shaff, M.D. Magnetic Resonance Imaging C. Leon Partain, M.D., Ph.D. Nuclear Medicine Martin P. Sandler, M.D. Ultrasound Arthur C. Fleischer, M.D. Renal Diseases Richard L. Gibson, M.D. Rheumatology Theodore Pincus, M.D. Surgery Vernon H. Reynolds, M.D. General John L. Sawyers, M.D. Neurological George Allen, M.D. Ophthalmology James H. Elliott, M.D. Oral H. David Hall, D.M.D. Otolaryngology Ronald Cate, M.D. Pediatric Wallace W. Neblett, M.D.
Computed Tomography Max I. Shaff, M.D. Magnetic Resonance Imaging C. Leon Partain, M.D., Ph.D. Nuclear Medicine Martin P. Sandler, M.D. Ultrasound Arthur C. Fleischer, M.D. Renal Diseases Richard L. Gibson, M.D. Rheumatology Theodore Pincus, M.D. Rheumatology Vernon H. Reynolds, M.D. General John L. Sawyers, M.D. General John L. Sawyers, M.D. Ophthalmology James H. Elliott, M.D. Oral H. David Hall, D.M.D. Otolaryngology Ronald Cate, M.D. Pediatric Wallace W. Neblett, M.D. Plastic John B. Lynch, M.D.
Computed Tomography Max I. Shaff, M.D. Magnetic Resonance Imaging C. Leon Partain, M.D., Ph.D. Nuclear Medicine Martin P. Sandler, M.D. Ultrasound Arthur C. Fleischer, M.D. Renal Diseases Richard L. Gibson, M.D. Rehumatology Theodore Pincus, M.D. Renal Diseases Richard L. Gibson, M.D. Cancer Chemotherapy Vernon H. Reynolds, M.D. General John L. Sawyers, M.D. Neurological George Allen, M.D. Ophthalmology James H. Elliott, M.D. Oral H. David Hall, D.M.D. Otolaryngology Ronald Cate, M.D. Pediatric Wallace W. Neblett, M.D. Plastic John B. Lynch, M.D. Renal Transplantation Robert E. Richie, M.D.
Computed Tomography Max I. Shaff, M.D. Magnetic Resonance Imaging C. Leon Partain, M.D., Ph.D. Nuclear Medicine Martin P. Sandler, M.D. Ultrasound Arthur C. Fleischer, M.D. Renal Diseases Richard L. Gibson, M.D. Rehumatology Theodore Pincus, M.D. Renal Diseases Richard L. Gibson, M.D. Cancer Chemotherapy Vernon H. Reynolds, M.D. General John L. Sawyers, M.D. Neurological George Allen, M.D. Ophthalmology James H. Elliott, M.D. Oral H. David Hall, D.M.D. Otolaryngology Ronald Cate, M.D. Pediatric Wallace W. Neblett, M.D. Plastic John B. Lynch, M.D. Renal Transplantation Robert E. Richie, M.D.
Computed Tomography Max I. Shaff, M.D. Magnetic Resonance Imaging C. Leon Partain, M.D., Ph.D. Nuclear Medicine Martin P. Sandler, M.D. Ultrasound Arthur C. Fleischer, M.D. Renal Diseases Richard L. Gibson, M.D. Rheumatology Theodore Pincus, M.D. General Vernon H. Reynolds, M.D. General John L. Sawyers, M.D. Neurological George Allen, M.D. Ophthalmology James H. Elliott, M.D. Oral H. David Hall, D.M.D. Otolaryngology Ronald Cate, M.D. Pediatric Wallace W. Neblett, M.D. Plastic John B. Lynch, M.D. Renal Transplantation Robert E. Richie, M.D. Ronder, M.D. Robert E. Richie, M.D. Robert E. Richie, M.D. Robert E. Richie, M.D. Thoracic and Cardiac Harvey W. Bender, M.D.
Computed Tomography Max I. Shaff, M.D. Magnetic Resonance Imaging C. Leon Partain, M.D., Ph.D. Nuclear Medicine Martin P. Sandler, M.D. Ultrasound Arthur C. Fleischer, M.D. Renal Diseases Richard L. Gibson, M.D. Rehumatology Theodore Pincus, M.D. Renal Diseases Richard L. Gibson, M.D. Cancer Chemotherapy Vernon H. Reynolds, M.D. General John L. Sawyers, M.D. Neurological George Allen, M.D. Ophthalmology James H. Elliott, M.D. Oral H. David Hall, D.M.D. Otolaryngology Ronald Cate, M.D. Pediatric Wallace W. Neblett, M.D. Plastic John B. Lynch, M.D. Renal Transplantation Robert E. Richie, M.D.

Eligibility: All licensed physicians are eligible. Credit: AMA Physician's Recognition Award (Category 1) and AAFP Continuing Education Accreditation. Application: For information and application contact Continuing Medical Education, Vanderbilt School of Medicine, CCC-5316 MCN, Nashville, TN 37232, Tel. (615) 322-4030.

Continuing Education Schedule

Continuing Lau	Cation Schoule
Feb. 1-8	The Skeleton at Snowmass—Snowmass Vil-
	lage, Colo.
Feb. 7	Adoption Update
March 16-22	The Spine—Maui, Hawaii
April 18-19	Annual Barney Brooks Lecture and the H.
	William Scott Society
May 23-24	10th Annual Sonography Symposium
June 4-8	Family Medicine Review
June 25-27	Upper Cumberland Medical Society Meet-
	ing—Pikeville, Tenn.
July 21-25	Annual Symposium on Contemporary Clin-
•	ical Neurology—Hilton Head Island, S.C.
July 25-26	Breast Imaging

For information contact Division of Continuing Medical Education, Vanderbilt School of Medicine, CCC-5316 MCN, Nashville, TN 37232, Tel. (615) 322-4030.

MEHARRY MEDICAL COLLEGE

Extended Continuing Education Program

Arrangements have been made with the following services and departments in the medical school to allow practicing physicians to participate in that service's activities for a period of one to four weeks. This program provides an opportunity for physicians to study in depth for a specified period. The schedule of activities is individualized in response to the physician's request by the participating department. The experience includes conferences, ward rounds, audiovisual materials and contact with patients, residents and faculty.

Participating Departments

Anesthesiology		. Mireille Lecorps, M.D.
Anesthesiology		John Arradondo, M.D.
nternal Medicine		
Cardiology		John Thomas M.D.
Cardiology		Joseph Hinds, M.D.
		Paul Alexander, M.D.
Chart D'assess		
Chest Diseases		
	and a	Paul A. Talley, M.D.
Dermatology	11	nomas W. Johnson, M.D.
Gastroenterology	<u>L</u> u	dwald O. P. Perry, M.D.
	But	ntwal M. Somayaji. M.D.
Hematology/Oncology		. Robert S. Hardy, M.D.
Neurology	Calv	in L. Calhoun, Sr., M.D.
••		Gregory Samaras, M.D.
Obstetrics and Gynecology		.Henry W. Foster, M.D.
Ophthalmology		. Axel C. Hansen, M.D.
Orthopedics	,	Wallace T. Dooley, M.D.
ormopromotor () () () () ()		Patrick Lecorps. M.D.
Pathology		
Pediatrics	For	tus O Adebonoio M D
Surgery	103	tus O. Auctonojo. m.D.
General		Louis I Bornard M.D.
Name legical		Charles F. Brawe, M.D.
Neurological.		Charles E. Brown, M.D.
Thoracic and Cardiovascular		Ira D. Hiompson, M.D.
Urology		Harvey Butler, M.D.

Application: Henry Moses, Ph.D., Director, Continuing Education, Meharry Medical College, 1005 D.B. Todd Avenue North, Nashville, TN 37208, Tel. (615) 327-6235.

UNIVERSITY OF TENNESSEE

Continuing	Education	Schedule
		Memphis

March 1-2	Bone and Neurology Radiology					
March 23-28	19th Annual Review Course for the Family					
	Physician					

April 17-18 State Perinatal Meeting

For information contact Mrs. Jean Taylor Bryan, Office of Continuing Medical Education, University of Tennessee College of Medicine, 800 Madison Ave., Memphis, TN 38163, Tel. (901) 528-5547.

EAST TENNESSEE STATE UNIVERSITY

Jan. 6-10 Medical Updates VII: A Review of Recent Advances in Medicine—Park City, Utah.

For information contact Sue Hutchinson, M.P.H., Program Coordinator, Office of CME, Quillen-Dishner College of Medicine, Box 19660A, Johnson City, TN 37614, Tel. (615) 928-6426, ext. 204.

HCA WEST SIDE HOSPITAL—NASHVILLE

Gynecologic Laser Workshops

Advanced Gynecologic Laser Workshops for Surgical Lasers Featuring Endoscopic and Open Abdominal CO2 and Nd:YAG Laser Training will be held on the following dates: Feb. 14-15, April 11-12, May 30-31, Aug. 22-23, Oct. 10-11, Dec. 12-13, 1986. Credit: 18 hours AMA Category 1.

For information contact the Women's Health Group Research and Education Foundation, 2222 State St., Nashville, TN 37203, Tel. (615) 321-3500.

IN SURROUNDING STATES

MEDICAL COLLEGE OF VIRGINIA

Feb. 3-5	3rd Annual Winter Retreat: Update on Pulmonary Disorders—Wintergreen, Va.
March 21-23	Ophthalmology: Refractive Corneal Surgery 1986—Williamsburg, Va.
March 21-22	2nd Annual Symposium on Paleopathology: Arctic Paleopathology—MCV Campus, Richmond, Va.
April 15	58th Annual Stuart McGuire Lecture: The Zollinger-Ellison Syndrome—MCV Campus, Richmond, Va.
April 18-20	4th Annual Symposium on Anesthesia for Ambulatory Surgery—Williamsburg, Va.
April 18-20	6th Annual Clinical Concerns in Primary

	Care—Williamsburg, Va.
May 2-4	21st Annual Pediatric Springfest—Williams-
	burg, Va.
May 2-4	8th Annual Conference on Emergency
	Medicine for the Primary Care Physician—
	Williamsburg, Va.
May 9-11	22nd Annual Postgraduate Course in Ra-
	diology: Current Topics in Diagnostic Im-
	aging—Williamsburg, Va.
May 19-20	14th Annual Hans Berger Day and EEG
	Symposium—MCV Campus, Richmond, Va.
May 24-26	Gynecologic Urology and Pelvic Surgery—
	Hot Springs, Va.
June 5-7	10th Annual Postgraduate Course on Reha-
	bilitation of the Brain-Injured Adult and
	Child—Williamsburg, Va.
July 11-13	Practical Internal Medicine: Selected Topics
	for the Internist—Virginia Beach, Va.
July 25-27	6th Annual MCV Cardiology Conference—
	Hot Springs Vo

Ju Hot Springs, Va. July 25-27 8th Annual Pediatric Primary Care Conference: Pediatrics at the Beach-Virginia Beach, Va. Aug. 7-10 Summer Retreat: Practical Issues in Primary Care-Virginia Beach, Va.

For information contact Kathy Martin, Office of CME, Medical College of Virginia, Box 48, MCV Station, Richmond, VA 23298, Tel. (804) 786-0494.

OF SPECIAL INTEREST

KNOXVILLE ACADEMY OF MEDICINE

Annual Knoxville Academy of Medicine Feb. 22-29 Educational Ski Trip-The Charter Resort, Beaver Creek, Colo.

For information contact the Knoxville Academy of Medicine or I. Ray King, M.D., Suite 405, 200 Blount Ave., Knoxville, TN 37920, Tel. (615) 573-0031.

AMERICAN COLLEGE OF PREVENTIVE MEDICINE

The American College of Preventive Medicine announces the availability of this continuing medical education course:

Title: Prevention of Motor Vehicle Trauma Credit: 1 to 2 hours AMA Category 1 Fee: Materials provided free of charge

For information contact American College of Preventive Medicine, 1015 15th St., N.W., Suite 403, Washington, DC 20005, Tel. (202) 789-0003.

DECEMBER, 1985 777

Highlights of the TMA Board of Trustees Meeting October 13, 1985

The following is a summary of the major actions taken by the Board of Trustees of the Tennessee Medical Association at its regular third quarter meeting in Nashville, Tenn., on October 13, 1985.

THE BOARD:

				-					
A	-	-	_	В	-	٠.,	-	-	٠.
А	U	U	o	ı	n	ш	ne	ш	IS

Acknowledged the Chairman's appointment of a task force to study the feasibility of establishing a statewide HMO/IPA as directed by the Board at its July meeting. The members are Drs. Hamel B. Eason, Memphis, Chairman; Jack Butterworth, Jr., Bristol; William O. Miller, Knoxville; Donald E. Lighter, Knoxville; William E. Rowe, Chattanooga; and Paul R. Stumb, Nashville.

Also a Medical Services Committee approved by the Board in July was appointed. The following were appointed to serve: Drs. Arden J. Butler, Jr., Ripley, Chairman; Thurman L. Pedigo, McMinnville; Duane C. Budd, Johnson City; Richard G. Lane, Franklin; and Robert E. Bowers, Chattanooga.

Long Range Planning Committee

Agreed to submit a Constitution and Bylaw change to permit doctors of osteopathy to be accepted for membership in TMA if accepted by the county societies.

Ad Hoc Committee to Study TMA Headquarters

Appointed Drs. James W. Hays, Tom E. Nesbitt, and O. M. Kochtitzky, Nashville, to serve on an ad hoc committee to consider future needs and make recommendations regarding the present TMA Headquarters building and property.

TMA Hospital Medical Staff Section

Directed the Chairman of the Board to appoint a steering committee for tentative planning to establish a hospital medical staff section.

Mid-South Foundation for Medical Care Received a report that most of the initial problems with Medicare admissions have been solved, with the refusal rate now at 12%. It was stated that Dr. John Hamsher is very willing to meet with any group in Tennessee to further improve communication problems which might exist with the PRO.

Impaired Physician Committee

Dr. Charles Thorne, chairman of the Impaired Physician Committee, spoke of the educational efforts and hard work by Dr. David Dodd, part-time medical director of the Impaired Physican Program, and stated that the committee recommended renewal of Dr. Dodd's contract for 1986. Dr. Dodd's contract was renewed for 1986.

Report of TMA Subsidiaries

Received a brief report regarding the status of the TMA for-profit subsidiaries.

TMA Resolution No. 20-85

Agreed to reintroduce Resolution No. 20-85 to the House of Delegates and include the word "consent" with "request" for the administration of anesthesia and the performance of operations and other procedures.

Medicaid

Authorized the Governmental Medical Services Committee to work with Medicaid and to report back to the Board on major policy changes on method of payment to physicians.

Resolution for Interim AMA Meeting Approved a request for the AMA delegation to submit a resolution to the AMA House of Delegates at the December interim meeting, requesting reinstitution of the CME Newsletter.

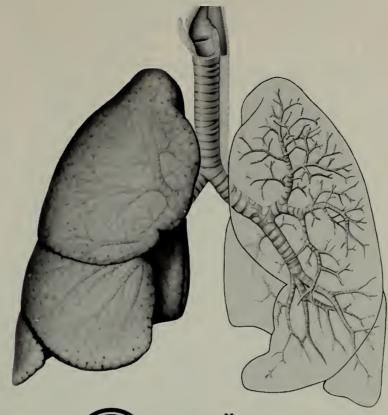
Request from Memphis-Shelby County Medical Society

Agreed to seek posthumous recognition through the AMA for a former Memphis newspaper reporter, Mr. Charles Thornton, who was killed in Afghanistan on Sept. 25, 1985, while on assignment. Mr. Thornton was known for his excellence in medical reporting and was a friend of organized medicine. Mr. Thornton received the AMA Medical Journalism Award in 1972.

Financial Statement and 1986 Proposed Budget

Approved the TMA operating report for the first nine months of 1985, and approved a proposed 1986 budget of \$1,177,500.

Consider the causative organisms...



cefacior

250-mg Pulvules® t.i.d.

offers effectiveness against the major causes of bacterial bronchitis

H. influenzae, H. influenzae, S. pneumoniae, S. pyogenes (ampicillin-susceptible) (ampicillin-resistant)

Brief Summary. Consult the package literature for prescribing information.

patient who has demonstrated some turn or analy, alray to drugs, udomembranous colitis has been reported with virtually all spectrum antibiotics inclusing macrolides, sensymhetic lins, and cephalosporins); therefore, it is important to ter its diagnosts in patients who develop diarrhae in iation with the use of antibiotics. Such colitis may range in y from mild to litte-threatening, attent with broad-spectrum antibiotics alters the normal in the coton and may permit overgrowth of clostridia's Sudies te that a toxin produced by Clostridiam difficite is one y cause of antibiotic-associated colitis.

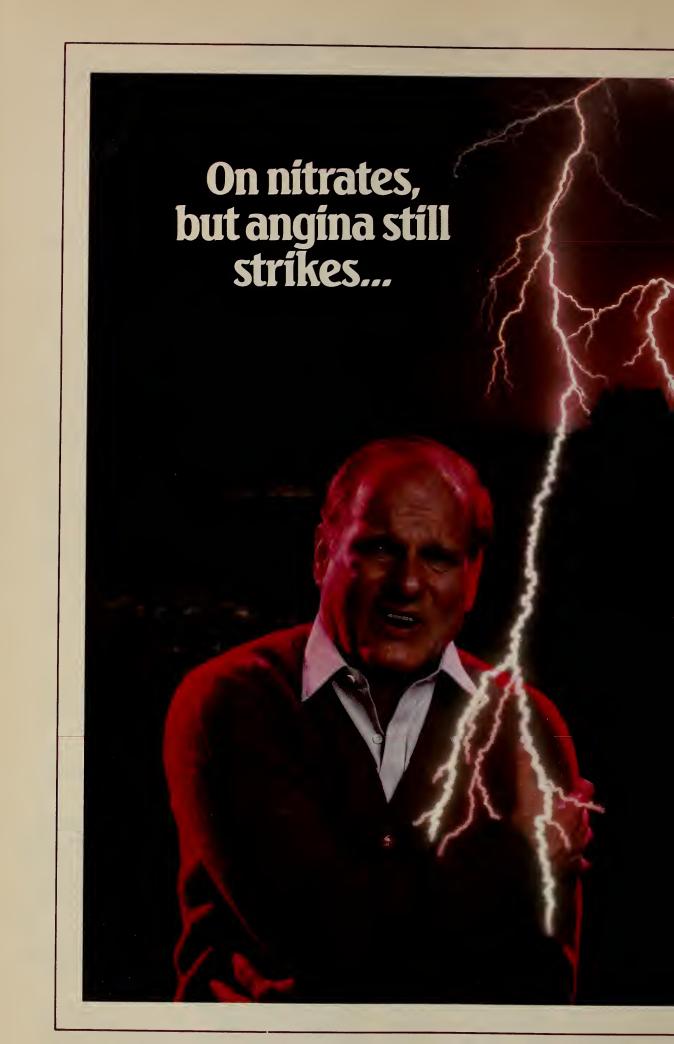
It can be a supported to the control of the color of the color

Note: Ceclor* (cefactor, Lilly) is contraindicated in patients with known allergy to the cephalosporins and should be given cautiously to pencillin-allerging patients.

Penicillin is the usual drug of choice in the treatment and prevention of streptococcal infections, including the prophylaxis of rheumatic feer. See prescribing information.

© 1984, ELI LILLY AND COMPANY





FOR THE LATEST ON CANCER TREATMENT



You've been treating Mrs. Johnson and her family for 15 years. Now she has cancer and you want the latest information.

Because you can't attend all the oncology meetings or read all the journals, the National Cancer Institute developed PDQ—a computerized, user-friendly database for physicians that's updated monthly. PDQ uses home or office computers to provide state-of-the-art information about cancer prognosis and treatment.

PDQ also provides information about who is conducting relevant clinical studies. If you want additional help regarding state-of-the-art therapies, or in identifying protocols for your patient, you can call any of 10,000 cancer clinicians, indexed by specialty and by geographic area—PDQ.

If your office computer is only keeping accounts, bring it into the consulting room with you—PDQ. For more information, write PDQ, National Cancer Institute, Bethesda, MD 20205.





1985 MEMBERSHIP ROSTER TENNESSEE MEDICAL ASSOCIATION

An alphabetical listing of members of the Tennessee Medical Association by county medical society is published as a service to the membership. An asterisk (*) denotes physicians exempt from dues. A dash (—) denotes a student member.

BEDFORD COUNTY MEDICAL SOCIETY

BEDFORD COUNTY MEDICAL SOCIETY

BARNES, DONALO O, SHELBYVILLE
BEAVERS, LANA SHAKDN, SHELBYVILLE
CCOPER, ALBERT LEE, SHELBYVILLE
CCOPER, ALBERT LEE, SHELBYVILLE
FERRERY, JOHN S, SHELBYVILLE
FELCHAUS, JOSEPH H, SHELBYVILLE
FELCHAUS, JOSEPH H, SHELBYVILLE
JAYAKOOY, FRANK LORENZ, SHELBYVILLE
JUHNSON, SUE PAINE WELCH, SHELBYVILLE
MAGNUSON, CAROL LENT, SHELBYVILLE
MAGNUSON, CAROL LENT, SHELBYVILLE
MOULDER, GRACE E, SHELBYVILLE
OWNBY, FRED DILLARO, BELL BUCKLE
RICHAROS, AUBKEY THOS, SHELBYVILLE
RICHAROS, AUBKEY THOS, SHELBYVILLE
SELLS JR, SAMUEL P, SHELBYVILLE
SELLS JR, SAMUEL P, SHELBYVILLE
STUBBLEFIELO, CARL THOS, SHELBYVILLE
MOMACK, SARA, SHELBYVILLE

BENTON-HUMPHREYS COUNTY MEDICAL SOCIETY

MEDICAL SUCIETY
ALI, MAYSDON SHOCAIR, WAVERLY
ALI, SUBHI DAWLO SUBUH, WAVERLY
BLACKBURN, WM H, CAMDEN
BLANTON, HARDLO L, COURTLAND, AL
BOURNE JR, ROBERT I, CAMDEN
BUTTERWORTH, JOE S, CAMDEN
HARTLEY, MARK F, WAVERLY
LAWSON, JAMES J, NEW JDHNSONV'LE
MCCLURE, WALLACE JOE, WAVERLY
SKELTON, M ANGELA, WAVERLY
STEPHENS, JOS WM, WAVERLY
WALKER, ARTHUR WINFREY, WAVERLY

BLOUNT COUNTY MEDICAL SOCIETY

AGEE, OLIVER KING, MARYVILLE
AHN, KYUNG M, MARYVILLE
AKIN, HOBART E., MARYVILLE
BEARO, MARYIN ROBISON, MARYVILLE
BELL, W KEN, MARYVILLE
BOLLINGEK JR, JOHN A, MARYVILLE
BOWEN, JOHN H, MARYVILLE
BURKHART, PATRICK H, MARYVILLE
CALLAWAY, JAMES MILLEY, MARYVILLE
CALLAWAY, JAMES MILLEY, MARYVILLE
CALLAWAY, JAMES MILLEY, MARYVILLE
CCALON, PETER LEE, MARYVILLE
CCHISTOFFERSON, JAMES H, MARYVILLE
CCINE, RICHARO, MARYVILLE
CCINE, RICHARO, MARYVILLE
CCOWAN, JOHN DAVIO, MARYVILLE
CROWDER, HM C, MARYVILLE
CROWDER, HM C, MARYVILLE
CROWDER, MM HILSON, MARYVILLE
OELSHMIT, JAMES RICHARO, MARYVILLE
ELLINGTON, EXIC PATRICK, MARYVILLE
ELLIOTT, ME EAR, MARYVILLE
ELLIOTT, ME EAR, MARYVILLE
ELMORE, OALE B, MARYVILLE
ELMORE, OALE B, MARYVILLE
EYANS, SAMUEL D, MARYVILLE
FARRA, FRED T, MARYVILLE
FARRA, FRED T, MARYVILLE
FARRA, FRED T, MARYVILLE
FARRA, FRED T, MARYVILLE
GREEN, BRUCE QUINTON, LOUISVILLE
GALLAGHER, MICHAEL P, MARYVILLE
GALLAGHER, MICHAEL P, MARYVILLE
HARALSON III, ROBT HA TION, MARYVILLE
HARALSON JR, KOBT HA MARYVILLE AGEE, OLIVER KING, MARYVILLE AHN, KYUNG M, MARYVILLE AKIN, HOBART E, MARYVILLE GALLAGHER, MICHAEL P, MARYVILLE
GREEN, BRUCE QUINTON, LOUISVILLE
HARALSON III, ROBT HA TION, MARYVILLE
HARALSON JR, ROBT H, MARYVILLE
HARALSON JR, ROBT H, MARYVILLE
HARALSON JR, ROBT H, MARYVILLE
HAUN JR, LOUIS FUGENE, MARYVILLE
HEINY, JEROME JAMES, MARYVILLE
HENORSON JR, JOS S, ALCOA
HOFFMANN, PAUL WILFRIEO, MARYVILLE
HOLDER, JAMES THOS, MARYVILLE
HOLMES, GREGORY M, MARYVILLE
HOLMES, GREGORY M, MARYVILLE
HOFFMANN, JOHN SAYMOND, MARYVILLE
INGRAM III, JUHN JACKSON, MARYVILLE
JENKINS, BASIA IRENE M, KNOXVILLE
KAMPEKMAN, COLIN LEE, ALCOA
KIEFER, SIEPHEN K, MARYVILLE
LAMBETH, SAML S, MARYVILLE
LAMBETH, SAML S, MARYVILLE
LAMBETH, SAML S, MARYVILLE
LAMBETH, SAML S, MARYVILLE
LAMBETH, SOW M, MARYVILLE
MANDRELL, JOE THUS, ALCOA
MANNING, JUHN FRANKLIN, MARYVILLE
MARNON, KENNETH WALDO, MARYVILLE

MAYBERRY, ALTON RAY, KNOXVILLE
MCAMIS, JOHN CARL, MAKYVILLE
MCCACLL, BENNY GDROON, MARYVILLE
MCCROSKEY, OAVIO L, MARYVILLE
MCKINNON JR, NORMAN A, MARYVILLE
MCKINNON BENNY JERRY, MARYVILLE
MYNATT, RICHARO J, MARYVILLE
PERSHING, STEPHEN O, MARYVILLE
PETERSON, MARYIN OEAN, MARYVILLE
PHELAN, JACK STANISLAUS, MARYVILLE
PHITENCER, JOHN, MARYVILLE
PROFFITT, JAMES NICHOLAS, MARYVILLE
PROFFITT, JAMES NICHOLAS, MARYVILLE
RAMSEY, BAINARU PERCY, MAPYVILLE
RAPSEY, BAINARU PERCY, MAPYVILLE
ROMANS, ALLAN, MARYVILLE
SCATON, KOBERT M, MARYVILLE
SEATON, KOBERT M, MARYVILLE
SIMPSON JR, DSCAR L, MARYVILLE
SMALLEY JK, J BRYAN, MARYVILLE
SMALLEY JK, J BRYAN, MARYVILLE
SOMMERVILLE JR, LEMIS C, MARYVILLE
THURSTON, TIMOTHY MM, MARYVILLE
THURSTON, TIMOTHY MM, MARYVILLE
THURSTON, TIMOTHY MM, MARYVILLE
WANDERGRIFF, MARKIS T, MARYVILLE
WANDERGRIFF, MARKYILLE
WANDERGRIFF,

BRADLEY COUNTY MEDICAL SOCIETY

BRADLEY COUNTY MEDICAL SOCIETY
ALORICH, MM T, CLEVELAND
ALLEN, RGST LEMIS, CLEVELAND
APPLING, JUHN MGRGAN, CLEVELAND
BAPLING, JUHN MGRGAN, CLEVELAND
BEASLEY, ROBERT ALAN, CLEVELAND
BEASLEY, ROBERT ALAN, CLEVELAND
BESING, JUHN MM, CLEVELAND
BESING, JUHN MM, CLEVELAND
BESING, JUHN MM, CLEVELAND
BESING, JUHN MILTUN, CLEVELAND
BYERS, GLEN MARSH, CLEVELAND
BYERS, GLEN MARSH, CLEVELAND
CHAFFIN, UAVID C, CLEVELAND
CHAFFIN, JUAVID C, CLEVELAND
CHASTAIN, ALLAN CHALMER, CLEVELAND
CHASTAIN, ALLAN CHALMER, CLEVELAND
COLEMAN, RONALD S, CLEVELAND
COLLINS, LARRY C, CLEVELAND
COLLINS, LARRY C, CLEVELAND
COUNCAN, EDDIE NORKIS, CLEVELAND
FORO, OENNIS CLIFFORD, CLEVELAND
GENON, OONALD BAKER, CLEVELAND
GIRSON, OONALD BAKER, CLEVELAND
HAMBLY, OONALD LYNN, CLEVELAND
HAMBLTON, HOMARD KEN, CLEVELAND
HAMBLTON, HOMARD KEN, CLEVELAND
HAMBLTON, HOMARD KEN, CLEVELAND
HAMBLTON, DAN C, CLEVELAND
HAMBLTON, DAN C, CLEVELAND
HAMBLTON, DAN C, CLEVELAND
HOMNSON JAN, MM FRANK, CLEVELAND
JOHNSON JAN, MM FRANK, CLEVELAND
JOHNSON, JANIEL V, CLEVELAND
KIM, STEVEN, CLEVELAND
KIMBALL, CECIL HARRY, CLEVELAND
KIMSTEVEN, CLEVELAND
KIMBALL, CECIL HARRY, CLEVELAND
KYLE JR, CLYDE A, CLEVELAND
MAZZA, GERALD K, CLEVELAND
MAZZA, GERALD K, CLEVELAND
MAZZA, GERALD K, CLEVELAND
MONNIG, JACK ANTHONY, CLEVELAND
STANORTH R, HILTON HEAD IS, SC
SMODOY, JANES PATTERSON, CLEVELAND SWART JR. EDWIN GIFFORD. CLEVELAND

TAYLOR, UMEN C, CLEVELAND
THURMAN, JAMES RUBT, CLEVELAND
TILSON, FURREST BLAIN, CLEVELAN
VANCE, OANIEL B. CLEVELAND
YDUNGER, CLYDE P, CLEVELAND

BUFFALO RIVER VALLEY MEDICAL SOCIETY

BUFFALO RIVER VALLEY MEDICAL SOCIETY
ALDERSON, CHAS MALCOLM, PARSONS
ANANO, VEENA, HOHEMAALO
ANANO, VIRENDER, HOHEMAALO
AVERETT, STEPHEN L. LINDEN
BLENDER, AILLIAM, LINDEN
COLEMAN, KOBT M, DICKSON
COOK, MILLIAM N, PRIMM SPRINGS
ELROO, PAKKER DAVID, CENTERVILLE
FUSNES, JEFFREY CAPL, CENTERVILLE
HOLLADAY, BERTIF L. CENTERVILLE
MCGEE, REBECCA C, CENTERVILLE
TURNER JK, GORUDN M, LINDEN

CAMPBELL COUNTY MEDICAL SOCIETY

CAMPBELL COUNTY MEDICAL SOCIETY

ABELL, LORA MARIE, LAFOLLETTE

GURRELL, JOHN S, LAKE CITY

CLINE JR, ELIJAH GYADY, LA FOLLETTE

COMEN, THUS LEGNARD, LA FOLLETTE

CAUTCHFIELD, JAMES OONALO, LA FOLLETTE

FARRIS, JAMES CLARENCE, LA FOLLETTE

HALL III, RONALD DAKEK, LAFOLLETTE

HARTMAN, KONALD D, JELLICO

ISHAM, CHAYLES AUBREY, LAFOLLETTE

PRATER, CHAS ALVIN, JELLICO

PRYSE, JOHN C, LA FOLLETTE

SEARGEANT JR, LEE JESS, LA FULLETTE

STAFFORO, MILLIAM LEMIS, JELLICO

THOMPSON, GEO STANLEY, HARROGATE

WALKER, JESSE LEE, JELLICO

MILKENS, CHAS HENRY, JELLICO

MILKENS, CHAS HENRY, JELLICO

MOOOO, BURGIN HENRY, LA FULLETTE

CARTER COUNTY MEDICAL SOCIETY

CARTER COUNTY MEDICAL SOCIETY

ARCHIE, DAYID S. ELIZABETHTON
BASSAL, ALY A. ÉLIZABETHTON
BRONSON, S'MARTIN, ELIZABETHTON
BURIK, NICHOLAS P. ELIZABETHTON
CHAMBERS, GARY R., ELIZABETHTON
CRUZ JR., TEODORITO P. ELIZABETHTON
OAVIS, FLOYO, RLOWING RUCK, NC
DENDYA, JUSE DIDNISIO, ELIZABETHTON
GALLAHER, RICHARD GRANT, ELIZABETHTON
GALLAHER, RICHARD GRANT, ELIZABETHTON
GASTINEAU, JERRY LÉE, ELIZABETHTON
HOPLAND, ARNULD D. ELIZABETHTON
LAUG, DENNIS G. ELIZABETHTON
MARTIN JR, RICARDU S. ELIZABETHTON
MAY, FLOYO E. ELIZABETHTON
MAY, FLOYO E. ELIZABETHTON
MAY, BOYCE, ELIZABETHTON
FPEARSON, ELMER TYLER, ELIZABETHTON
PERRY, EDGAR EUGENE, ELIZABETHTON
TAYLOR, TEOFURD STEVE, ELIZABETHTON
WALTER, ROBERT E. ELIZABETHTON
WELLS, CHAKLES J, ELIZABETHTON
CHATTANOOGA-HAMILTON COUNTY

CHATTANOOGA-HAMILTON COUNTY

MEDICAL SOCIETY

MEDICAL SOCIETY

ABRAMSON, JEROME H, CHATTANOOGA
ADAMS JR, JUNN H, CHATTANOOGA
ADAMS JR, JUNN H, CHATTANOOGA
ADAMS JR, JUNN H, CHATTANOOGA
ADOCOK, CHARLES R, SU PITTSBURG
AUKINS, CARL K, CHATTANOOGA
AIKEN, HM PIGMORE, CHATTANOOGA
AKIN, EOGAR DANL, CHATTANOOGA
ALBERITTON, JOHN THOS, CHATTANOOGA
ALLEN, BILLY JASON, CHATTANOOGA
ALLEN, BEORGE E, CHATTANOOGA
ALLEN, LINDA DIANE, CHATTANOOGA
ALPER, CHAS H, CHATTANOOGA
ANDERSON, HARRY S, CHATTANOOGA
ANDERSON, STEVEN K, CHATTANOOGA
ANDERSON, STEVEN K, CHATTANOOGA
ARNOLO, IKA L, CHATTANOOGA
ARNOLO, IKA L, CHATTANOOGA
ATKINSON, JOS SPROTT, CHATTANOOGA
ATKINSON, JOS SPROTT, CHATTANOOGA
BALLARO JR, FREO B, SIGNAL MIN
BANKS JR, MOODRUFF A, CHATTANOOGA
BALLARO JR, FREO B, SIGNAL MIN
BANKS JR, MOODRUFF A, CHATTANOOGA
BANG, SAML LUUIS, CHATTANOOGA
BARNET TIII, ROBERT M, CHATTANOOGA
BARNETT FRANCES H, MHITMELL
BAUTISTA, JUANCHO C, HIXSON
BEAMH, THUMAS M, CHATTANOOGA
BECHARO, DOUGLAS L, CHATTANOOGA

BERGLUNO, ROBERT K, CHATTANOGA
BERRY, MM BAKTON, PASAOEMA, TX
BESEMANN, EBEHARO FRANZ, CHATTANOGA
BINDER, SAML S, CHATTANOGA
BISHOP, FRANK E, CHATTANOGA
BISHOP, MM RUSSELL, CHATTANOGA
BLAKE, CHAS ALAN, HAKKISON
BLOUNT JR, HERRY C, CHATTANOGA
BOATWRIGHT, CATHERINE A, CHATTANOGA
BOATWRIGHT, CATHERINE A, CHATTANOGA
BOAT JR, LONNIE ROY, CHATTANOGA
BOEHM, WALTER EOWARD, CHATTANOGA
BOEHM, WALTER EICABEL, CHATTANOGA
BOISER, ANISTIOES L, CHATTANOGA
BOISER, ANISTIOES L, CHATTANOGA
BOISER, ANISTIOES L, CHATTANOGA
BONIER, MICHAEL IAN, CHATTANOGA
BONIER, MICHAEL IAN, CHATTANOGA
BONDER, JEMISUN O, CHATTANOGA
BOWERS JR, JAWYEY O, CHATTANOGA
BOWERS JR, JEMISUN O, CHATTANOGA
BOWERS, KUBT EUGENE, CHATTANOGA
BOWERS, KUBT EUGENE, CHATTANOGA
BOWERS, WUBT EUGENE, CHATTANOGA
BRAMER, SHELBY R, CHATTANOGA
BRAMER, SHELBY R, CHATTANOGA
BRAMER, SHELBY R, CHATTANOGA
BRAMER, SHELBY R, CHATTANOGA
BREMER JR, JOEL LEWIS, CHATTANOGA * BRANNEN, FRANK S, CHATTANOOGA
BRICE, CHARLES TERRY, CHATTANOOGA
BRICE, CHARLES TERRY, CHATTANOOGA
BRUCH, JOHN ALW, CHATTANOOGA
BRONN, HUGH P, CHATTANOOGA
BROOKSBANK, RONALO C, CHATTANOOGA
BROWN, NEIL CHAS, CHATTANOOGA
BROWN, NEIL CHAS, CHATTANOOGA
BRUCHAR IJJ, WOMANO F, CHATTANOOGA
BUCHARN JK, THOS F, CHATTANOOGA
BUCHARR, #M FRANCIS, CHATTANOOGA
BUCHER, #M FRANCIS, CHATTANOOGA
BUCHER, #M FRANCIS, CHATTANOOGA
BUCHER, #M FRANCIS, CHATTANOOGA
BUCHER, #M FRANCIS, CHATTANOOGA
BUTRAM, ARCH H, CHATTANOOGA
BUTRAM, THOS LATHAM, CHATTANOOGA
CAIDWELL, GARY BLAIVE, CHATTANOOGA
CAIDWELL, JAMES L, LOOKOUT HTN
CALHOUN JK, CALVIN LEE, CHATTANOOGA
CAMPBELL, UDMALD KOSS, CHATTANOOGA
CAMPBELL, JAMES L, LOOKOUT HTN
CANONN, GOO MARSHALL, SIGNAL MOUNTAIN
CANONN, GOO MARSHALL, CHATTANOOGA
CANORN, GOO MARSHALL, SIGNAL MOUNTAIN
CANONN, GOO MARSHALL, SIGNAL MOUNTAIN
CANONN, GOO MARSHALL, SIGNAL MOUNTAIN
CANONN, GOO MARSHALL, CHATTANOOGA
CANORN, GOO MARSHALL, SIGNAL MOUNTAIN
CANONN, GOO MARSHALL, SIGNAL MOUNTAIN
CANONN, GOO MARSHALL, SIGNAL MOUNTAIN
CANONN, GOO MARSHALL, CHATTANOOGA
CAMBERLAIN II, MOROON, CHATTANOOGA
CHABTAINN, CLEO, SAN ANTONIO, TX
CHENG, TIEN H, CHATTANOOGA
CHABTAIN, CLEO, SAN ANTONIO, TX
CHENG, TIEN H, CHATTANOOGA
CHABRALAIN II, MOROON, CHATTANOOGA
CHABRALAIN II, MOROON, CHATTANOOGA
CHABRALAIN, SIGNAL MOROON, CHATTANOOGA
CHABRA, CROBT, LOOKOUT MT
CLARK, MURKELL D, CHATTANOOGA
CHABRAL, JOHN NETON, CHATTANOOGA
COODINGTUN, KOBT CHAD, CHATTANOOGA
COODINGTUN, KOBT CHAD, CHATTANOOGA
COON, SOO MARSHALL, CHATTANOOGA
COON, SOO MARSHALL, CHATTANOOGA
COON, SIGNAL SHEER, CHATTANOOGA
COON, SIGNAL SHEER, CHATTANOOGA
COON, SIGNAL SHEER, CHATTANOOGA
CON, SOO NA JAMES HEATON, CHATTANOOGA
CONGEN, BRIAN J, CHATTANOOGA
CONALS, JAMES HELTON, CHATTANOOGA
OONELL, JOHN N, CHATTANOOGA
OONELL, JOHN N, CHATTANOOGA
OONELL, JOHN N, CHATTANOOGA
OONELL, JOHN N OUCKETT, HILLIAM O, HIXSON
OUFFY, MARY A, CHATTANOOGA
OUGAN, PHILIP JERALO, CHATTANOOGA
DUGAN, PHILIP JERALO, CHATTANOOGA
DYER, MA CARL, CHATTANOOGA
DYER, MA NOMLES, CHATTANOOGA
EBERLE, DAVID E, CHATTANOOGA
EBERLE, DAVID E, CHATTANOOGA
ELMOR, HOWACE, CHATTANOOGA
ELMOR, HOWACE, CHATTANOOGA
ELMOR, HOWACE, CHATTANOOGA
ELMOR, BRUCE A, SIGNAL MOUNTAIN
ELROD, BRUCE A, SIGNAL MOUNTAIN
EVANS, JOHN THOS, CHATTANOOGA
EYSSEN JAMES EDWARD, CHATTANOOGA
FARN, JOHN THOS, CHATTANOOGA
FARN, JOHN THOS, CHATTANOOGA
FEINTUCH, THEUDORE ARO, CHATTANOOGA
FEINTUCH, THEUDORE ARO, CHATTANOOGA
FEINTUCH, THEUDORE ARO, CHATTANOOGA
FERNEWALO, CLARENCE L, HIXSON
FERNANCE CAUJ, PAZ A, CHATTANOOGA
FENENBER CYALY, PAZ A, CHATTANOOGA
FERNAN, STUARY ARES, CHATTANOOGA
FRANKLIN III, SELWON T, CHATTANOOGA
FRANKLIN III, SELWON T, CHATTANOOGA
FRANKLIN, JOHN DAVIO, CHATTANOOGA
GAZALEH, SAUGUSIUS C, CHATTANOOGA
FRANKLIN, JOHN DAVIO, CHATTANOOGA
GAZALEH, SAUGUSIUS C, CHATTANOOGA
GEFTER, HEFREY W, CHATTANOOGA
GEFTER, HONICA AVIVA LEHEK, HIXSON
GEOGG CRAIG RAMSAY MO, SOUTH PITTSBURG
GIBSON JR, GEO CLIVE, CHATTANOOGA
GEFTER, HONICA AVIVA LEHEK, HIXSON
GEOGG CRAIG RAMSAY MO, SOUTH PITTSBURG
GIESON, SHOUCH, CHATTANOOGA
GEFTER, DEFREY W, CHATTANOOGA
GEFTER, JOHN MANNE, HIXSON
GINSBERG, JOEL FINE, CHATTANOOGA
GEFTER, JOHN NAME, HIXSON
GINSBERG, JOEL FINE, CHATTANOOGA
GEFTER, JOHN NAME, HIXSON
GINSBERG, JOH FINE, CHATTANOOGA
GRAMM HILLIAM RY, SIGNAL MOUNTAIN
GILLEY, DEAN M, SARASOTA, FL
GOOLAD, JAMES K, CHATTANOOGA
GRAMM HILL, FRAN M, CHATTANOOGA
GRAMMS, SILOHAL ROY, CHATTANOOGA
HANGKON, SOUTH PITTSBURG
HAGOOO, JAMES K, CHATTANOOGA
HANGKON, SOUTH PITTSBURG
HAGOOO, JAMES K, CHATTANOOGA
HANGKON, SOUTH PITTSBURG
HAGOOO, SOUTH PITTSBURG
HAGOOO

* ISBELL, D, CHATTANDOGA
JAMES, DEMITY B, CHATTANDOGA
JAMES, DEMITY B, CHATTANDOGA
JEMSON, ROBT LLOYO, COLLEGOALE
JEONG, TUNE GILL, CHATTANDOGA
JEMSON, ROBT LLOYO, COLLEGOALE
JEONG, TUNE GILL, CHATTANDOGA
JEMSON, ROBON, CHATTANDOGA
JOHNSON, EDWARD JOMNEY, SALE CEEEK
JONES, ROGER C, CHATTANDOGA
JONES, ROGER C, CHATTANDOGA
JONES, ROGER C, CHATTANDOGA
JONES, ROGER C, CHATTANDOGA
JONES, ROSSELL A, CHATTANDOGA
KADLAN, HYANA M, CHATTANDOGA
KAPLAN, HYANA M, CHATTANDOGA
KAPLAN, HYANA M, CHATTANDOGA
KENNEDY, CHARLES DAVID, CHATTANDOGA
KENNEDY, CHARLES DAVID, CHATTANDOGA
KENNEDY, JOHN JACOB, CHATTANDOGA
KING, JOHN JACOB, CHATTANDOGA
KING, CHALTER HUGHETAND CHATTANDOGA
KING, CHALTER HUGHETAND CHATTANDOGA
KING, JOHALD REREIL, CHATTANDOGA
KING, JOHALD REREIL, CHATTANDOGA
KING, JOHALD REREIL, CHATTANDOGA
KING, JOHAND REREIL, CHATTANDOGA
KUCHLER, LINION LOUIS, CHATTANDOGA
LABRADOR JR, DANIEL P, CHATTANDOGA
LASSITER, LAURENCE H, CHATTANDOGA
LAYENCH, JR, JOS V, CHATTANDOGA
LASHICH, JR, LES ER, CHATTANDOGA
LAYENCH, JR, LES ER, CHATTANDOGA
LAWRILL JR, STEWART, CHATTANDOGA
LASSITER, LAURENCE H, CHATTANDOGA
LAWRICH, JR, LES ER, LAYRING H, CHATTANDOGA
LAWRICH, JR, LES ER, LAYRING H, CHATTANDOGA
LOWG, HANDER LA CHATTANDOGA
MCERON, CORRESION, CHATTANDOGA
MCERON, GORDER H, CHATTANDOGA
MCELER, JR, HARRY, CHATTANDOGA
MCELER, JR, HA

MURRAY, R SHITH, CHATTANOOGA
MYERS SR, ROBERT H, CHATTANOOGA
NEYS SR, ROBERT H, CHATTANOOGA
NATHAN, MARVIN MYER, CHATTANOOGA
NELSON, HILTON OMENS, CHATTANOOGA
NELSON, HILTON OMENS, CHATTANOOGA
NELSON, ROCER T, WILDWOOD, CA
NESON, ROCER T, WILDWOOD, CA
NESON, ROCER T, WILDWOOD, CA
NESON, ROCER T, WILDWOOD, CA
NOONAN, DAVID V, CHATTANOOGA
NODNAN, DAVID V, CHATTANOOGA
OND, ALAN C, CHATTANOOGA
OOR, ALAN C, CHATTANOOGA
OOR, ALAN C, CHATTANOOGA
OOR, ALAN C, CHATTANOOGA
OOR, ALAN C, CHATTANOOGA
PARK, IM KOO, FT OGLETHORPE, GA
PARK, IM MC TAS, CHATTANOOGA
PARK, STYCKLER C, CHATTANOOGA
PERTY, MESLEY GLENN, CHATTANOOGA
PERTY, MESLEY GLENN, CHATTANOOGA
PERTYN, MESLEY GLENN, CHATTANOOGA
PETTYN, MESLEY GLENN, CHATTANOOGA
PHILLIPS, MICHAEL O, CHATTANOOGA
PHILLIPS, MICHAEL O, CHATTANOOGA
PHICKET, JAMES CLARKE, CHATTANOOGA
PHICKET, JAMES CLARKE, CHATTANOOGA
PHICKET, JAMES CLARKE, CHATTANOOGA
PHICKET, JAMES CLARKE, CHATTANOOGA
PHICKET, MARTIN ALLER, CHATTANOOGA
PHICKET, JAMES CLARKE, CHATTANOOGA
POBTERA, CHALTLE ANTIDON, CHATTANOOGA
PHICKET, MARTIN ALLER C, CHATTANOOGA
POBTERA, CHALTLE ANTIDON, CHATTANOOGA
POBTERA, CHALTLE ANTIDON, CHATTANOOGA
PORTERA, CHALTLANOOGA
PORTERA, CHALTLANOOGA
PORTERA, CHATTANOOGA
PHICKET, MARTIN ALLER C, CHATTANOOGA
PORTERA, CHATTANOOGA
RANGE, R, BARNEY, CHATTANOOGA
RANGE, R, BORNEY, CHATTANOOGA
RANGE, R, GEORA, CHATTANOOGA
RANGE, R, GEORA C, CHATTANOOGA
ROBEL, ROBERT L, CHATTANOOGA
SHAH, INDRAWANAN, CHATTANOOGA
SHERNELL, JARES MY, CHATTANOOGA
SHAH, INDRAWANAN, CHATTANOOGA
SHERNELL, JARES WI, CHATTA

STONE, HAKRY ALFKED, CHATTANOOGA
STONEBURNER, WESLEY H, CHATTANOOGA
STRAIT, TIMOTHY A, CHATTANOOGA
STRICKLAND JR, JOHN E, CHATTANOOGA
STRICKLAND JR, JOHN E, CHATTANOOGA
STRIKER, WM KENDALL, CHATTANOOGA
STROUG, MARY E THOMPSON, CHATTANOOGA
SUGGS III, CHARLES L, CHATTANOOGA
SWANN JR, NAT H, CHATTANOOGA
SWANN JR, NAT H, CHATTANOOGA
SWAIT, CHAS RAY, CHATTANOOGA
SYLORUSKI, WYRON J, CHATTANOOGA
TAYLOR, RO N, CHATTANOOGA
TAYLOR, RO N, CHATTANOOGA
TAYLOR, RO N, CHATTANOOGA
TAYLOR, RO N, CHATTANOOGA
TAYLOR, THOMAS FOWARO, CHATTANOOGA
TEPLEY, LYNN B, CHATTANOOGA
TEPLEY, LYNN B, CHATTANOOGA
TEPPER, UNA CHATTANOOGA
TEPPER, BERNARO, CHATTANOOGA
TEPPER, BERNARO, CHATTANOOGA
THOMPSON, PAUL C, CHATTANOOGA
THOMPSON, PAUL C, CHATTANOOGA
THOMPSON, PAUL C, CHATTANOOGA
TIN, PE THAN, CHATTANOOGA
TIN, PE THAN, CHATTANOOGA
TURKER, ODNAID R, CHATTANOOGA
TURKER, ODNAID R, CHATTANOOGA
TURKER, ODNAID R, CHATTANOOGA
TURKER, ODNAID R, CHATTANOOGA
ULIN, A STEVEN, CHATTANOOGA
ULIN, BAYLOM, CHATTANOOGA
ULIN, BAYLOM, CHATTANOOGA
ULIN, BAYLOM, CHATTANOOGA
VAN OROFR, WM EDGAR, CHATTANOOGA
VAN OROFR, WM EDGAR, CHATTANOOGA
VANDERBILT, OOGGARS, CHATTANOOGA
WESTERMEYER, WARION M, CANDIER, NC
WHEEBOCK, ARGIL JERRY, CHATTANOOGA
WESTERMEYER, WARION M, CANDIER, NC
WHEEBOCK, ARGIL JERRY, CHATTANOOGA
WHITE, PHIL JOE, CHATTANOOGA
WILLIAMS III, SAM JONES, CHATTANOOGA
WILLIAMS, ROBERT S, CHATTANOOGA
WILLIAMS, ROBERT S, CHATTANOOGA
WILLIAMS, ROBERT S, CHATTANOOGA
WILLIAMS, ROBE

COCKE COUNTY MEDICAL SOCIETY

GARBARINO JR. A J. NEMPORT HOOD, MICHAEL T. NEMPORT HOUD, MICHAEL I, NEWPORT LUCKTONG, BOUNLUA, NEWPORT MCCONNELL, DAVID H, NEWPURT SHULTS, GLEN C, NEWPORT VALENTINE JR, FRED M, NEWPORT

COFFEE COUNTY MEDICAL SOCIETY

COFFEE COUNTY MEDICAL SOCIETY

BILLS, STEPHEN H, TULLAHOMA
BIRDMELL, JOEL STANLEY, TULLAHOMA
BRICKELL JR, RALPH L, TULLAHOMA
CANON, ROBT MANTICE, TULLAHOMA
FARRAR, CLARENCE H, MANCHESTER
FARRAR, HONARD A, MANCHESTER
FARLEY, MARVIN CLIFFORD, TULLAHOMA
GALBRAITH, BRUCE E, TULLAHOMA
GRAY JR, EOMIN F, TULLAHOMA
KENNEDY, JERRY LEOFORD, TULLAHOMA
KIM, HO KYUN, TULLAHOMA
KIM, HO KYUN, TULLAHOMA
KIM, HO KYUN, TULLAHOMA
MING, JAMES MANNING, TULLAHOMA
MING, JAMES MANNING, TULLAHOMA
MILAM, WILLIAM M, TULLAHOMA
MONSON, MARTIN, ESTILL SPRINGS
PERRY, PATRICIA ANNE, TULLAHOMA
RIOLEY, ROBERT MENDELL, TULLAHOMA
SANGERS IV, WILLIAM J, TULLAHOMA
VALLEJO, FRANCISCO C, TULLAHOMA
WOODFIN JR, MOSE CLAPKE, TULLAHOMA
WONGO, COULTER SMARTT, MANCHESTER

CONSOLIDATED MEDICAL ASSEMBLY OF WEST TENNESSEE

CONSOLIDATED MEDICAL ASSEMBLY OF

WEST TENNESSEE

ALEXANDER CLYDE VINSON, JACKSON
ALLEN, HAROLU W, JACKSON
APPLETON JR, JAMES POY, JACKSON
ARISTORENAS, JUAN T, ADARSVILLE
ATKINS, JERRY FRANKLIN, HUNTINGOON
BAKER, LT CL JOHN O, TEMPLE, AZ
BALLARO, THOS K, JACKSON
BARHAM, HARVEY HAYMOOD, BOLIVAR
BARKER, JAMES HARKIS, JACKSON
BARNETT II, HUGH GLENN, JACKSON
BARNETT II, HUGH GLENN, JACKSON
BARNETT II, HUGH GLENN, JACKSON
BISHOP, JUAN WYRUN, STMERVILLE
BOND JR, ELIAS KING, JACKSON
BISHOP, JUAN WYRUN, STMERVILLE
BOND JR, ELIAS KING, JACKSON
BODTH, JACK H, JACKSON
BROWN II, JOE LAMKENCE, JACKSON
BURRUST, WILLIAM FRANKLIN, JACKSON
CASEY, POGERT REIO, HILAN
CHAPDAN, T C. RROWNSYILLE
CHAPMAN, T C. RROWN

OINKINS, RUTH ELEANDR, MEDINA
DONSON JR, GED DAY, JACKSON
DONNELL, JAMES HAROLD, JACKSON
DONNELL, JAMES HAROLD, JACKSON
DOUGLASS JR, KOY 4, JACKSON
OUGLASS, JACK F, JACKSON
OUGLASS, JACK F, JACKSON
OUGLASS, JACK F, JACKSON
OUGLING, CLAREY M, EKOWNSVILLE
DRIVER, CLAREY M, EKOWNSVILLE
DRIVER, CLAREY M, HUMBOLOT
OUNAVANT, ROBT MAYNE, BULIVAR
OUNNEBECKE, RUBERT M, JACKSON
OUVAL JR, J WILLIAM, JACKSON
EDMAROS, LOMIN MILTZ, JACKSON
EDMAROS, GROGE T, JACKSON
EDMAROS, GROGE T, JACKSON
EDMAROS, GROGE T, JACKSON EDWARDS, NICHOLAS HENKY, GRAND SELLIS, JUHN W. TRENTON ELLIS, THUMAS W. JACKSON EHERSON, BLANCHE S. JACKSON EPPS, JOHN MICHAEL. JACKSON FENELY JK. JAMES U. JACKSON FENELY JK. JAMES U. JACKSON FENELY JK. JAMES U. JACKSON FESTER, CHAS STEPHEN, JACKSON FREGERICK, PAUL CLAYTON. JACKSON FREGERICK, PAUL CLAYTON. JACKSON FRIEDMAN, FRED M. JACKSON FROST, CHAS LESTEK, MILIVAR GARRARO JK. CLIFFORD L. JACKSON GRANT. WILLIAM M. MC KENZIE GRAVES. OLIVEK HAALTOM, JACKSON GRAY, ALOEN HARPELSON, KENTUN GUYTON, JOS L. JACKSON HALE, BOBBY OFF, BROWNSVILLE HALL, JAMES KILSON. TRENTON HALL, JAMES KILSON. TRENTON HALL, BOBT CHUMMIE. JACKSON HAMMOND, JERE D. JACKSON GRAND JUNCTION JACKSON

HALL, JAMES KILSON, TRENTON
HALL, ROBT CRUMEL, JACKSON
HAMMONO, JERE O, JACKSON
HAMMONO, JEEPHEN, JACKSON
HARMON, HARVEY, JACKSON
HARRISCH, KURT, MIODLETON
HARRISCH, KURT, MIODLETON
HARRISON, WALTON M. JACKSON
HAMKINS JK, KAYMONO, SOMERVILLE
HAYES, JOHN M. AROWNSVILLE
HAYES, JOHN M. AROWNSVILLE
HAYES, JOHN M. AROWNSVILLE
HAYES, JOHN M. AROWNSVILLE
HAYERON, BRUCE EMEKSON, JACKSON
HERRON, BRUCE EMEKSON, JACKSON
HERRON, CHAS BURKHEAD, JACKSON
HERRON, CHAS NORKIS, TRENTON
HICKAN, CHAS NORKIS, TRENTON
HICKAN, ALVIN THORNTON, CAMBEN
HICKS, ALVIN THORNTON, CAMBEN
HILL, ROBT S, JACKSON
HOLANCIN, JOHN R, MCKENZIF
HOLMES, CHESTER L, TRENTUN
HOLMES, JAMES THOBURN, MC KENZIE
HONEYCUTT, DANIEL LEE, JACKSON
HORTON, ROBT LESLIE, CAMBEN
HOUSE, REM FRED, JACKSON
HUMBHREY, TOM NEAL, SELMER
HUMPHREYS, T JAMES, JACKSON
JENKINS, JOHN M, JACKSON
JOHNSTON, ELLAND MANN, JACKSON

HUMPHREYS, T JAMES, JACKSON JENKINS, JOHN M, JACKSON JOHNSTON, LELAND MANN, JACKSON JONES, DAVID N, JACKSON JONES, CAVID N, JACKSON JONES, KENT L. JACKSON JONES, PAUL DAVID, MILAN KEE, JIMMY M, JACKSON

KENDALL, JOHN ALLEN, JACKSON
KING, OARREL CHAMBERS, HENDERSON
KIRKLAND, RONALD H, JACKSON
LANGOON, JACKSON
LANGOON, JACKSON
LANGOON, JACKSON
LANGOON, JACKSON
LANGOON, JR., JAMES A, JACKSON
LEVERNIER, JAMES SOAVIOSON, JACKSON
LEVERNIER, JAMES E, JACKSON
MANDLE, ROBT BENNIE, LEXINGTON
MALEY, BRUCF B, JACKSON
MANDLE, ROBT BENNIE, JACKSON
MANTHEWS, JOHN T, JACKSON
MATTHEWS, JOHN T, JACKSON
MATHEWS, JOHN T, JACKSON
MATHEWS, JOHN T, JACKSON
MCAGEE, WILLIAM CLEVELAND, JACKSON
MCCALLUM, OSCAR M, HENDERSON
MCCALLUM, OSCAR M, HENDERSON
MCCOMBELL, L JANF, JACKSON
MCCOMBELL, L JANF, JACKSON
MCCOMBELL, L JANF, JACKSON
MCCOMBELL, L JANF, JACKSON
MCITURY, HAROLO THOMAS, JACKSON
MCITURY, HAROLO THOMAS, JACKSON
MCITURY, AUGUSTUS L, JACKSON
MILLER JR, JESSE A, JACKSON
MUBLLER, ALFRED J, JACKSON
MUBLLER, ALFRED J, JACKSON
MUBLLER, ROBERT MICHAEL, BOLIVAR
PAKIS JR, GEONGF, JACKSON
MTHAR, LAMB BOLTON, JACKSON
MTHAR, LAMB BOLTON, JACKSON
MALHER JR, EDMUND T, JACKSON
MPATEL, HASHUKH JAHAPAHAI, TRENTON
PETERS, JERRY O, JACKSON
PLEMMONS, LLOYD HAROLO, SOMENVILLE
PORTIS, BILL SCOTT, HUNTINGOON
REFERS, JERRY O, JACKSON
PLEMMONS, LLOYD HAROLO, SOMENVILLE
PORTIS, BILL SCOTT, HUNTINGOON
RAMER JP, MARKEN CAPLTON, LEXINGTON
RAMER SP, JARKS N, SACKSON
NHAPA, KARL BYINGTIN, SOMENVILLE
REGION AND ALLEY ARROWS NOT ALLEY AND ARCHSON
SHAPPE JR, BENJ AECKSON
SHAPPAND, ALLEY LEE, JACKSON
SHAPPAND, ALLEY LEE, JACKSON
SHAPPAND, ALLEY LEE, JACKSON
SHAPPAND, ALLEY LEE, JACKSON
SHAPP, JR, SENJ REEKS, JACKSON
SHAPP, JR, SENJ REEKS, JACKSON
SHITH, ROBT JOS, JACKSON
SHITH, ROBT JOS, JACKSON
SHEPPARD, ALLEY LEE, JACKSON
STEPPJR, MILLIAM P, JACKSON
STEPPJR, MILLIAM P, JACKSON
STITH, JAMES HAGY, SELMER
STINGLE, JAWES TYLER, JACKSON
STEPPJR, MILLIAM P, JACKSON
STEPPJR, MILLIAM P, JACKSON
STEPPJR, MILLIAM P, JACKSON
STEPPJR, MILLIAM P, JACKSON
STEPPLR, MILLIAM P, JACKSON SWINDLE, JAMES TYLER, JACKSON
TATE, J KNOX, ADLIVAR
THOMAS, GEO EMANUEL, JACKSON
THOMAS, JAMES LOUIS, JACKSON
THOMPSON JR. JOHN ROBT, JACKSON
THORTON JR. JOHN C. RPOWNSYILLE
TORSTRICK, RUBERT F. JACKSON
TKUEK, S ALLEN, JACKSON
TKUEK, S ALLEN, JACKSON
THILLA, KONALD G. MILAN
VEGORS, RUBERT A, JACKSON
YINSON, HANDLD HALLACE, SELMER
WALKER IN SHEPLIL STORE, MCKEN VEGORS, RUBERT A, JACKSON
VINSON, PAROLD HALLACE, SELMER
HALKER JM, SHERLLE STUNE, MC KENZIE
HAMMEROD JM, JAMES G, JACKSON
HERR, PODEMICK C, MUMRDLUT
HELLES III, EDMARD HUNTER, JACKSON
MHITE, CHARLES HESLEY, LEXINGTON
HHITE, JEKALD HAYNE, BPOMNSVILLE
HHITE, JEKALD HAYNE, BPOMNSVILLE
HHITE, LAMAR ARTHUR, EMIENDSHIP
MILLIAMS, JR. ALLEN N, BEMIS
HILLIAMS, JAMES HARRY, TRENTON
HILLIAMS, JAMES HARRY, TRENTON
HILLIAMS, PHILIP GRAY, MILAN
HILLIAMS, PHILIP GRAY, HILAN
HILLIAMS, HILLIAM MEITH, JACKSON
HILLIAMSON, JAMES STEPHEN, HUNTINGOON
HILLIAMSON, JAMES STEPHEN, HUNTINGOON
HILSON, PU, MENDERSON
HILSON, BUST BURTON, HUNTINGOON
HINKLEM, VOLKER GERT, MCKENZIE
HOLFE, MAYNE HARVY, JACKSON
HOJOSS, ARTHUM M, JACKSON
HARIGHT III, LUCIUS F, JACKSON
HYATT, GED BRECKENRIDGE, JACKSON
MYLT, PAUL EVE, JACKSON
MYATRO, GEDRGE, JACKSON
MARRO, HAROLD M, JACKSON
MARRO, HAROLD M, JACKSON
MARRO, HAROLD M, JACKSON

CUMBERLANO COUNTY MEDICAL SOCIETY

CUMBERLANO COUNTY MEDICAL SOCIETY

BARNAHELL, JAMES ROSS, CROSSVILLE

BAVLOSIS, ROBERTO B, CROSSVILLE

BELL, CHRISTOPHER M, CROSSVILLE

BILBREY, RICHARO LEE, CROSSVILLE

BILBREY, RICHARO LEE, CROSSVILLE

BONNOS, CHARLES P, PIKEVILLE

BONNOS, CHARLES P, PIKEVILLE

BONNOS, CHARLES P, PIKEVILLE

CALLIS, JAMES TAYLOP, CROSSVILLE

CALLIS, JAMES TAYLOP, CROSSVILLE

CAMPBELL JR, JAMES T, CROSSVILLE

CAMPBELL JR, JAMES T, CROSSVILLE

CLAYTON, THOMAS EDWARD, CROSSVILLE

CLAYTON, THOMAS EDWARD, CROSSVILLE

CRAYCON, THOMAS EDWARD, CROSSVILLE

CRICK, JAMES M, CROSSVILLE

OBEATHERAGE, PHILIP M, CROSSVILLE

OUGHAPTY, JUHN H, EAIREIELD GLADE

DUFR, CARL THOS, CROSSVILLE

EXVIN JR, PAUL A, CROSSVILLE

EVYIN JR, PAUL A, CROSSVILLE

IVEY, RODNATHAN MILES, CROSSVILLE

IVEY, RODNATHAN, CROSSVILLE

IVEY, RODNATHAN, CROSSVILLE

IVEY, RODNATHAN, CROSSVILLE

MAYEIELD, ROBERT O, CROSSVILLE

MAYEIELD, ROBERT O, CROSSVILLE

ROBERTSON, JOS O, CROSSVILLE

ROBERTSON, JOS O, CROSSVILLE

ROBERTSON, JOS O, CROSSVILLE

ROBERTSON, STUART P, JOHNSON CITY

VAN GELOVEN, FRANCISCA E, CROSSVILLE

MODO JR, ROBT HANCOCK, CROSSVILLE

MODO JR, ROBT HANCOCK, CROSSVILLE

MODO JR, ROBT HANCOCK, CROSSVILLE

DEKALB COUNTY MEDICAL SOCIETY

ABBOTT II, KENNETH M, SMITHVILLE
BLEVINS, MELVIN LEE, SMITHVILLE
BOBROM, JUSEPH S, MORGANEIELD, KY
CRIPPS, HUGH DON, SMITHVILLE
DARRAH, DAVID EDMARC, ALEXANORIA
TRUDEL, JULES A, SMITHVILLE
THILLA, JOHN KENNETH, SMITHVILLE
WHITMORE, MAKK ALLAN, SMITHVILLE

OICKSON COUNTY MEDICAL SOCIETY

OICKSON COUNTY MEDICAL SOCIETY

ANDERSON, STANLEY MARTIN, DICKSON
BELL III, ALTER A, DICKSON
BELL III, ALTER A, DICKSON
BELL III, ALTER A, DICKSON
BLEVINS, JERRY C, DICKSON
COLLINS, CLYDE E, DICKSON
COUK, MARY BAXTER, MASHVILLE
DRINNEN, JANL BROOKS, DICKSON
ELLIOTT JK, JAMES C, CHARLOTTE
GORODN, JEFEREY, DICKSON
MAYES, PHILLIP MALTON, DICKSON
JACKSON, JAMES T, DICKSON
JACKSON, JAMES T, DICKSON
JACKSON, JAMES T, DICKSON
MAHAN, MARCELLE, DICKSON
MAHAN, MARCELLE, DICKSON
MANI, VENK, DICKSON
PHAM NGOC THUAN, ROBERT, DICKSON
SALYER, JOHN K, DICKSON
SMITH, BOBBY JOEL, DICKSON
SMITH, BOBBY JOEL, DICKSON
SMITH, BOBBY JOEL, DICKSON
SMANSON, ROGER THUMAS, DICKSON
HISER, ELDRED HOUCK, DICKSON
FFNTRESS COUNTY MEDICAL SOCIETY

FENTRESS COUNTY MEDICAL SOCIETY ALLPEO, BALEY EREO, JAMESTONN JOSHI, OILIP N, JAMESTONN SMITH, JACK CALVIN, JAMESTONN TURNER, SHELBY OSCAR, CLARKKANGE

FRANKLIN COUNTY MEDICAL SOCIETY

FRANKLIN COUNTY MEDICAL SOCIETY

* ANOERTON, JD CARTER, WINCHESTER
BAGBY JR, RICHARD A, WINCHESTER
BARTON, RUBERT K, SEMANEE
ECKLES, GEORGE, MINCHESTER

* FITE, ARTHUR R, MINCHESTER
HORT, PETER, WINCHESTER
HOULIMAN, JAMES D, MINCHESTER
HOULIMAN, JAMES D, MINCHESTER
HOUD, OEWEY MODOROW, OECHERD
HOPKINS, WODATIO, SEWANEE
HUBBARD, REX, WINCHESTER
JOHNSON, GERALD BUSENE, MINCHESTER
KENNEDY, ELAIME, MINCHESTER
KEPPLER, CHAS B, SEMANEE
SMITH, THOMAS ANDERSON, WINCHESTER
STEIN, MICHAEL A, SEMANEE
STEIN, MICHAEL A, SEMANEE
STENSTY, JAMES G, WINCHESTER
STOCKTON, DAVIO L, MINCHESTER
STOCKTON, DAVIO L, MINCHESTER
TUART, FLETCHER SLOCUMB, WINCHESTER
TAN BLARICUM, JAMES, WINCHESTER
VAN BLARICUM, JAMES, WINCHESTER
VILLAR, RODGERD, MINCHESTER
WAY, ROGEK ATKINSON, SEMANEE
WELLS, DARRELL K, PALMER
ZIMMERMAN, THUMAS F, MINCHESTER

GILES COUNTY MEDICAL SOCIETY

GILES COUNTY MEDICAL SOCIETY

AGEF, ROBT B, PULASKI
AL AGHA, MOUHAMEO WALIO, PULASKI
BALATICO, FENDENADO, PULASKI
BURGER, CHARLES M, PULASKI
COOPER, EARNEST H, PULASKI

DAVIS JR, BUFORD PRESTON, PULASKI DAVIS JR, BUFORD PRESTON, PULASS, FENTRESS, J VANCE, PULASKI FORONDA, ARMANDO CABOT, PULASKI HANEY, CHARLES O, PULASKI JOHNSON, WALTER JOE, PULASKI MURREY, WM HARWELL, PULASKI OHEN, WM KENORICK, PULASKI RASCHE, RICHARD ALBERT, PULASKI RASCHE, RICHARD ALBERT, PULASKI

RASCHE, ANNE M, PULASKI
RASCHE, RICHARD ALBERT, PULASKI

GREENE COUNTY MEDICAL SOCIETY

AASHEIM, RICHARD J, GREENEVILLE
AUSTIN JR, JOSEPH W, GREENEVILLE
BARNES, LLOYD ROGERS, GREENEVILLE
BEAN, MICHAEL WM, GREENEVILLE
BECKNER III, THOS FOLSOM, GREENEVILLE
BCOMER III, THOS FOLSOM, GREENEVILLE
BCOMER, MALTER CLAY, GREENEVILLE
COLLE, RONALD ARTHUR, GREENEVILLE
COLLINGS, THOMAS A, GREENEVILLE
COLLINGS, THOMAS A, GREENEVILLE
COLLINGS, THOMAS A, GREENEVILLE
COLLINGS, THOMAS A, GREENEVILLE
COLLES JR, ROBT S, GREENEVILLE
ELLENBURG JR, LUKE LAMAR, GREENEVILLE
ELLENBURG JR, LUKE LAMAR, GREENEVILLE
ELLENBURG JR, LUKE LAMAR, GREENEVILLE
ELLENBURG, LUKE L, GREENEVILLE
GIBSON, RABE 3, GREENEVILLE
GIBSON, RABE 3, GREENEVILLE
HOLT, BEVLEY O, GREENEVILLE
HOLT, BEVLEY O, GREENEVILLE
HORNER, NATHAN P, GREENEVILLE
HORNER, NATHAN P, GREENEVILLE
HASSON, HALTER LAWRENCE, GREENEVILLE
MASSON, HALTER LAWRENCE, GREENEVILLE
MASSON, HALTER LAWRENCE, GREENEVILLE
MATHIESEN JR, KENNETH M, GREENEVILLE
MATHIESEN JR, KENNETH M, GREENEVILLE
MATHESEN JR, KENNETH M, GREENEVILLE
MATHIESEN JR, KENNETH M, GREENEVILLE
MCKINNEY, JAMES RAY, GREENEVILLE
MONTGOMERY, CHAS ALEXANDER, GREENEVILLE
MONTGOMERY, CHAS ALEXANDER, GREENEVILLE
MONTGOMERY, CHAS ALEXANDER, GREENEVILLE
MCKINNEY, JAMES RAY, GREENEVILLE
STANAG, GEUWESLEY, GREENEVILLE
STENMER, ROBERT M, GREENEVILLE
STEANLEY III, RICHARD E, GREENEVILLE
STRANGE, E BRAD, GREENEVILLE
STRANGE, E BRAD, GREENEVILLE
STRANGE, E BRAD, GREENEVILLE
STRANGE, E BRAD, GREENEVILLE
STRANGE, BRAD, GREENEVILLE
STRANGE, E BRAD, GREENEVILLE
STRANGE, BRAD, GREENEVILLE
STRANGE, BRAD, GREENEVILLE
WEBSTER, THOS MOORE, GREENEVILLE

HAROIN COUNTY MEDICAL SOCIETY **GREENE COUNTY MEDICAL SOCIETY** WEBSTER, THOS MOURE, GREENEVILLE

HAROIN COUNTY MEDICAL SOCIETY

HAROIN COUNTY MEDICAL SUCIETY
BLANKENSHIP JR, H, SAYANNAH
CHURCHMELL, A GRIGG, SAYANNAH
EREEMAN, JOHN L, SAYANNAH
GREENE, RICHARD S, SAYANNAH
LAY, JOHN DANL, SAYANNAH
PETERS, JUSEPH A, SAYANNAH
RAGSOBLE, THUMAS H, SAYANNAH
RAG, GADE, SAYANNAH
ROF, THOS YANCE, SAYANNAH
SMITH, MICHAEL L, SAYANNAH
THOMAS, HOMARO M, SAYANNAH
THOMAS, JAMES HOMARO, SAYANNAH

HAWKINS COUNTY MEDICAL SOCIETY BAIRO JR, RENERO B, ROGERSVILLE
ELKINS, LARRY H, ROGERSVILLE
GAMBREL, *ALPH, ROGERSVILLE
GIBBONS, *ILLIA* E, ROGERSVILLE
GOEORTH, *ALTER L, ROGERSVILLE
JOHNSON, C C, ROGERSVILLE

HENRY COUNTY MEDICAL SOCIETY

HENRY COUNTY MEDICAL SOCIETY

ADAMS, ROBT O, PARIS
CAMPBELL, MM RUSSELL, PARIS
GARRETT, GLENN SANDERS, PARIS
GRIEGEY JR, WALTER P, PARIS

* GRIEGEY, MALTER P, PARIS

* HOWELL SR, IRYIN M, PARIS
LEE, SEUNG H, PARIS
MOBLEY JR, EMMETT P, PARIS
MOBLEY JR, EMMETT P, PARIS
MOBLEY JR, DUE DICK, PARIS
MOBLEY JR, JUE DICK, PARIS
NORMAN, ONIGHT MICHAEL, PARIS
NEWMANN SK, JOHN E, PARIS
NEWMANN SK, JOHN E, PARIS
REMANN, ONIGHT MICHAEL, PARIS
RHEA SR, MM GARONER, PARIS
RHEA SR, MM GARONER, PARIS
ROSS, KENNETH GUYSTEAU, PARIS
SENTER JR, JOHN MAXWELL, PARIS
TUSA, VINCE CHAS, PARIS
TUSA, VINCE CHAS, PARIS
HODD, THOS CHAS, PARIS

JACKSON COUNTY MEDICAL SOCIETY BARDEN III, LERDY F, GAINESBORD BYRNE, GREGORY L, GAINSBORD OUDNEY, ELIJAH MORGAN, GAINESBORD

```
KNOXVILLE ACADEMY OF MEDICINE
ABY GREW VICTOR, KNOXYILLE

* ABSHER, LEE A. KNOXYILLE

* ACKER, JR. JOS F., KNOXYILLE

* ACKER, JAMES JOS, KNOXYILLE

* AKIN, ROBT LOUIS, KNOXYILLE

* ANDROSON, THOMAS I. KNOXYILLE

* ANDROSON, THOMAS I. KNOXYILLE

* ANDROSON, THOMAS I. KNOXYILLE

* ANGE, CHAS GILMFR, KNOXYILLE

* ANGE, JOHN #, JOAK * IOGE

* AVERY, BEBE ANNE BASS, KNOXYILLE

* AVERY, SHEREY BANNISTRS, KNOXYILLE

* BAKER JR, MARTIN ROSS, KNOXYILLE

* BAKER JR, MARTIN ROSS, KNOXYILLE

* BAKER JR, PAUL O. KNOXYILLE

* BAKER JR, BARTIN ROSS, KNOXYILLE

* BAKER JR, BARTIN ROSS, KNOXYILLE

* BARNSTON, FLOYO N. KNOXYILLE

* BEALS, JOE OUNGAN, KNOXYILLE

* BEALS, JOE OUNGAN, KNOXYILLE

* BEALS, JOE OUNGAN, KNOXYILLE

* BEALS, JOHN HANNY

* BEALS, JOHN HANNY

* BEALL, JOHN HANNY

* BELL, JOHN HANNY

* BELL, JOHN HANNY

* BELL, JOHN HANNY

* BELL, SPENCER Y, KNOXYILLE

* BELLOTY, BAUCE B, KNOXYILLE

* BLACK, CHAS M, KNOXYILLE

* BLACK, CHAS M, KNOXYILLE

* BLACK, CHAS M, KNOXYILLE

* BLACK, LAND B, KNOXYILLE

* BLACK, LAND B, KNOXYILLE

* BRASHAN, ROBERT B, KNOXYILLE

* BRASHAN, ROBERT B, KNOXYILLE

* BROWN, ROBERT B, KNOXYILLE

                                               CARR, FREDERICK M, KNOXVILLE
CATRON, OUNALO GISSON, KNOXVILLE
CAYLOR, LLOYD G, KNOXVILLE
CHERRY, RUNALO R, KNOXVILLE
CHESNEY, JUHN TUCKER, KNOXVILLE
CHESNEY, LUTHER M, KNOXVILLE
CHESTENBERRY JP, HENRY E, KNOXVILLE
CHRISTENBERRY JR, K W, KNOXVILLE
CHRISTENBERRY, KENNETH M, KNUXVILLE
CHRISTENBERRY, KENNETH M, KNUXVILLE
COBB, MALCOLM F, KNOXVILLE
COBB, MALCOLM F, KNOXVILLE
COLE, ROBT RELAND, KNOXVILLE
COLLER JR, RUBT HOYAL, KNOXVILLE
COLLERN, IRVING REID, KNOXVILLE
```

```
COMAS, FRANK VILANDVA, KNOXVILLE
CONCOON, EHAS C, OAK RIDGE
CONCEY, DEAN RAYMOND, KNOXVILLE
CONCEY, DEAN RAYMOND, KNOXVILLE
CODMER, EOWARD O, KNOXVILLE
CODEY, CAROLINE E, KNOXVILLE
COOPER JR, JOHN HARRISON, KNOXVILLE
COPER, PLEAS R, KNOXVILLE
COREY, OAVIO ANTHONY, KNOXVILLE
COWES, PLEAS R, KNOXVILLE
COWES, III, KOBERT S, KNOXVILLE
CRAWLEY, HOBERT A, KNOXVILLE
CRAWLEY, HOBERT A, KNOXVILLE
CRAWLEY, HOBERT A, KNOXVILLE
CREUTZINGER, DAVID J, KNOXVILLE
CREUTZINGER, DAVID J, KNOXVILLE
CRUMLEY, JOE C, KNOXVILLE
OAHDON, MURRIS NORTON, KNOXVILLE
OAHDON, MURRIS NORTON, KNOXVILLE
OATON, MURRIS NORTON, KNOXVILLE
OE FEORF JR, JOS CHAS, KNOXVILLE
OE LEESE, JOSFPH S, KNOXVILLE
OEPERSIO, RICHARD J, KNOXVILLE
OODBINS, AM TUOD, KNOXVILLE
OODRON, CLINT T, KNOXVILLE
OODRON, CLINT T, KNOXVILLE
OOWAS, JAHES E, KNOXVILLE
OOWAS, JAHES E, KNOXVILLE
OOWAS, JAHES E, KNOXVILLE
OUGHERTY, MORTHLE
OUGHERTY, MORTHLE
OUGHERTY, MORTHLE
OUFFY, MARY BROCK, KNOXVILLE
OUNCAN, ORVILLE JACK, KNOXVILLE
OUNCAN, ORVILLE JACK, KNOXVILLE
EACHUS, PATRICIA L, KNOXVILLE
EACHUS, PATRICIA L, KNOXVILLE
EACHUS, PATRICIA L, KNOXVILLE
EASTHAM, JEROMF F, KNOXVILLE
EASTHAM, JEROMF F, KNOXVILLE
EASTHAM, JEROMF F, KNOXVILLE
ELLIS, ROY C, HARPOGATE
ELY, JAMES H, KNOXVILLE
ELLIST, MICHAEL JA, KNOXVILLE
ELLIST, MICHAEL JA, KNOXVILLE
ELLIST, MICHAEL JA, KNOXVILLE
ELLIST, STANLEY H, KNOXVILLE
ENGLANO, R DAVID, KNOXVILLE
ENGRAP, JEROMF F, KNOXVILLE
ELLIST, STANLEY H, KNOXVILLE
ELLIST, STANLEY H, KNOXVILLE
ELLIST, STANLEY H, KNOXVILLE
EVANS, JOHN HARDLD, KNOXVILLE
EVANS, JOHN HARDLD, KNOXVILLE
EVANS, JOHN HARDLD, KNOXVILLE
EVANS, JOHN HARDLD, KNOXVILLE
EACHLES H, KNOXVILLE
EACHLES H, KNOXVILLE
ELLISTE H, KNOXVIL
EVANS, JUHN HAROLD, KNOXVILLE
FAPPON, OAVID FAWRFAU, KNOXVILLE
FAPPIS, RICHARD KENT, KNOXVILLE
FARPIS, RICHARD KENT, KNOXVILLE
FECHEK, MARK P. KNOXVILLE
FECHEK, MARK P. KNOXVILLE
FECHEK, MARK P. KNOXVILLE
FELO, NEIL, KNOXVILLE
FELO, NEIL, KNOXVILLE
FELOMOR, GED FOARRO, KNOXVILLE
FILLMORE, GED FOARRO, KNOXVILLE
FILLMORE, GED FOARRO, KNOXVILLE
FINELLI, KOBERT EUWARD, KNOXVILLE
FINELLI, KOBERT EUWARD, KNOXVILLE
FOSTER, HILLIAM EDWIN, KNOXVILLE
FRAME, RAKRY D. KNOXVILLE
FRAME, RAKRY D. KNOXVILLE
FREEDMAN, HAROLD O. LENDIK CITY
FREEDMAN, COY, KNOXVILLE
FREY JR, MELLUN ALMA, KNOXVILLE
FREY JR, MELLUN ALMA, KNOXVILLE
GALINADI, MARTY P. KNOXVILLE
GALINADI, MARTY P. KNOXVILLE
GALIVAN JR, FRANK H, KNOXVILLE
GARONER, AM MENRY, KNOXVILLE
GARONER, AM MENRY, KNOXVILLE
GARONER, AM MENRY, KNOXVILLE
GERKIN, OAVID GEORGE, KNOXVILLE
GERKIN, OAVID GEORGE, KNOXVILLE
GILBERT, VERNE EPHRAIM, KNOXVILLE
GILESPIE, RICHAYD ALLEN, KNOXVILLE
GILESPIE, RICHAYD ALLEN, KNOXVILLE
GILESPIE, RICHAYD ALLEN, KNOXVILLE
GILESPIE, RICHAYD ALLEN, KNOXVILLE
GITSCHLAG, GARY N, KNOXVILLE
GITSCHLAG, KAMILIA F, KNOXVILLE
GOUDGLOK, D STEVENSON, LOUISVILLE
GOUDGLOK, O STEVENSON, LOUISVILLE
GOUDGLOK, O STEVENSON, LOUISVILLE
GRAZEEL, CONKAD LINOSAY, KNOXVILLE
GRAZEEL, CONKAD LINOSAY, KNOXVILLE
GRAZEEL, CONKAD LINOSAY, KNOXVILLE
GRAZEEL, CONKAD LINOSAY, KNOXVILLE
GREEN, JAMES ALLEN, K
```

```
HALL, ROBT EDNUNG, KNDXVILLE
HAMPION, BEST ALLAN, KNDXVILLE
HAMPION, BEST ALLAN, KNDXVILLE
HAMPION, SAMID US, KNDXVILLE
HAMPION, FRANK, JDS, KNDXVILLE
HAMPION, MALTEY S. +, KNDXVILLE
HARD, JOS. +, KNDXVILLE
HARD, WALTEY S. +, KNDXVILLE
HARD, KNDX AAYNE, KNDXVILLE
HARPISON, SAMI A. LOUDON
HAMPISON, BAMI A. LOUDON
HAMPISON, BAMI A. LOUDON
HAMPISON, MA HALE, LOUDON
HAMPISON, MA HALE, LOUDON
HASSELL, DAVIO F. *KNDXVILLE
HAYES, P. TUCKEY J. T. *KNDXVILLE
HAYES, P. TUCKEY J. T. *KNDXVILLE
HAYES, P. TUCKEY J. T. *KNDXVILLE
HAYES, D. TUCKEY J. T. *KNDXVILLE
HAYES, D. TUCKEY J. T. *KNDXVILLE
HENDER, DOUGLAS KIGHY, KNDXVILLE
HENDER, DOUGLAS KIGHY, KNDXVILLE
HENDER, HOBGEN, KNDXVILLE
HENDER, HAMPION, KNDXVILLE
HETRICO, THAMS HENDY, KNDXVILLE
HILL, HUBERT CANDON, KNDXVILLE
HILL, HUBERT CANDON, KNDXVILLE
HOGG, FREDFEICK
HOGG, FREDFEICK
HOGG, FREDFEICK
HOGG, FREDFEICK
HOGY, SAMID SHOWNILLE
HORN, BENNETT FANNLIN, KNDXVILLE
HORN, STIME, KNDXVILLE
HORN, PREVY N, *KNDXVILLE
HORN, CHAS FOR SHANDING
HORN, CHAS FOR SHANDING
HORN, BENNETT G. KNDXVILLE
HORN, CHAS FOR SHANDING
HORN, BENNETT SON HORN ILLE
HORN, CHAS FOR SHANDING
HORN, STEPHEN F, KNDXVILLE
HORN, CHAS FOR SHANDING
HORN, STEPHEN F, KNDXVILLE
HORN, CHAS FOR SHANDING
HORN, STEPHEN F, KNDXVILLE
HORN, CANDON LEE
KENTED, AND SHANDING
HORN SHANDING
HORN
```

- LUNA, JOE LOUIS, KNOXYILLE
 LUTTRELL, ARNELL STANLEY, KNOXYILLE
 MACCEAN, RONALD N. KNOXYILLE
 MACCEAN, ROAT REGIS, KNOXYILLE
 MAGORY, ROAT REGIS, KNOXYILLE
 MAGORY, ROAT REGIS, KNOXYILLE
 MALDRE MR. EDHARD M. KNOXYILLE
 MALDRE MR. EDHARD M. KNOXYILLE
 MANNING, RICHARD D. KNOXYILLE
 MANNING, RICHARD D. KNOXYILLE
 MANSY, JOSEPH M. KNOXYILLE
 MASCY, JOSEPH M. KNOXYILLE
 MASCY, JOHN SAM, KNOXYILLE
 MASTIN, RIBERT D. KNOXYILLE
 MASTINGALE. H. LYNN, KNOXYILLE
 MASTINGALE. H. LYNN, KNOXYILLE
 MATHENS, CARL LESSIE; KNOXYILLE
 MATHENS, CARL LESSIE; KNOXYILLE
 MATHENS, CARL LESSIE; KNOXYILLE
 MACCALLEN, PERRY BOISTS, KNOXYILLE
 MCCALPEN, PERRY BOISTS, KNOXYILLE
 MCCAPPON, CUATIS P. KNOXYILLE
 MCCAPPON, LANGY DANN KNOXYILLE
 MCCAPPON, LANGY DANN KNOXYILLE
 MCCAPPON, LANGY BERNY, KNOXYILLE
 MCGINN, LARRY DANN KNOXYILLE
 MCGINN, LARRY DANN KNOXYILLE
 MCGINN, LARRY DANN KNOXYILLE
 MCKENZIF, JECAPEN FRANT, NOXYILLE
 MCKENZIF, JECAPEN FRANT, NOXYILLE
 MCKENZIF, JECAPEN FRANT, NOXYILLE
 MCKENZIF, JECAPEN FRANT, NOXYILLE
 MCKENZIF, DANNON FRANT, KNOXYILLE
 MCCHELEY, HOLAND M. NOXAIS
 MCKELEY, EDAAND TRET, CONCORD
 MEISEMHTIMER, STEPHEN L. KNOXYILLE
 MILLER, THOMAS R, KNOXYILLE
 MOFFETT, SEVEN K, KNOXYILLE
 MOFFETT, SHOWN K, KNOXYILLE
 MOFFETT, SHOWN K, KNOXYILLE
 MOFFETT, SHOWN K, KNO

- PEDIGO, RANDALL E, KNOXVILLE
 PEEBLES, FREO NFAL, KNOXVILLE
 PENN, JARKELL, KNOXVILLE
 PERRY, RONALO HOWARO, KNOXVILLE
 PERRY, RONALO HOWARO, KNOXVILLE
 PHELPS JR, PRESTON V, KNOXVILLE
 PHELPS JR, PRESTON V, KNOXVILLE
 PIENKOWSKI, MAREK M, KNOXVILLE
 PIERCE, STRUEN FAULKNER, KNOXVILLE
 PIERCE, STEVEN FAULKNER, KNOXVILLE
 PITARO, CECIL E, KNOXVILLE
 PITARO, CECIL E, KNOXVILLE
 PODGL, MICHAEL L, KNOXVILLE
 POWERS, JAMES G, KNOXVILLE
 POWERS, BRUCE RANKINS, KNOXVILLE
 POWERS, BRUCE RANKINS, KNOXVILLE
 POWERS, HAS BOOK BY KNOXVILLE
 POWERS, WILSON WATKINS, KNOXVILLE
 PRESSWOOD, JAMES J, KNOXVILLE
 PRINCE, HAMMONO, KNOXVILLE
 PRINCE, HAMMONO, KNOXVILLE
 PRINCE, MARK O, KNOXVILLE
 PRINCE, MARK O, KNOXVILLE
 PRINCE, MARK O, KNOXVILLE
 PRINCE, MARK O, KNOXVILLE
 PROSE, JOHN T, KNOXVILLE
 PUBPIS, JOHN T, KNOXVILLE
 RANGE, JOHN A, KNOXVILLE
 RANGE, JOHN A, KNOXVILLE
 RANGE, JOHN A, KNOXVILLE
 RANGE, JOHN A, KNOXVILLE
 RANGON, FREEMAN L, KNOXVILLE
 REEO, STEVEN H, KNOXVILLE
 REEO, STEVEN H, KNOXVILLE
 REEO, WARKEN G, KNOXVILLE
 REEO, WARKEN G, KNOXVILLE
 REEO, WILLIAM STUART, KNOXVILLE
 REEO, WILLIAM STUART, KNOXVILLE

- REGO, WARREN G, KNOXVILLE
 REGO, WILLIAM STUART, KNOXVILLE
 REGO, WILLIAM STUART, KNOXVILLE
 REGON, BILLY NEWELL, KNOXVILLE
 RIGGINS, BILLY NEWELL, KNOXVILLE
 RIGGINS, BILLY NEWELL, KNOXVILLE
 RIST, TOLYO F, KNOXVILLE
 ROMINSON, RICHARD MALTER, KNOXVILLE
 ROMESTER, JOHN CR AMPORD, KNOXVILLE
 ROGESTER, JOHN CR KNOXVILLE
 ROGESTER, JOHN CR KNOXVILLE
 ROGERS JR, JOHN CR KNOXVILLE
 ROGERS, JERRY RAY, NORFULK, VA
 ROGERS, HM KLAR, KNOXVILLE
 ROSE III, RICHARD C, KNOXVILLE
 ROSE III, RICHARD C, KNOXVILLE
 ROWE, CECIL UARRELL, KNOXVILLE
 ROWE, CECIL UARRELL, KNOXVILLE
 RUBEIGHT, ROBT LEE, KNOXVILLE
 RUBEIGHT, ROBT LEE, KNOXVILLE
 RUBEIGH, SUBJOO E, KNOXVILLE
 RUGEFF, OAVID ANTHONY, KNOXVILLE
 RULE, JACK ANDKEN, KNOXVILLE
 RULE, JACK ANDKEN, KNOXVILLE
 RULE, SENNETH BOYO, KNOXVILLE
 RUSSELL JR, CCCIL E, POMELL
 RUSSELL KNOBT CLAUDE, KNOXVILLE
 RUSSELL JR, CCCIL E, POMELL
 RUSSELL, STEPHEN A, KNOXVILLE
 RUTHERFORD JR, CHAS E, KNOXVILLE
 RUTHERFORD, KYLE DITS, KNOXVILLE
 RUTHERFORD, KYLE DITS, KNOXVILLE
 RYLANDS, JOHN GRAIG, KNOXVILLE
 SANDBERG, RONALD KENNETH, KNOXVILLE
 SANDBERG, RONALD KENNETH, KNOXVILLE
 SANDERG, RONALD KENNETH, KNOXVILLE
 SANDERG, RONALD KENNETH, KNOXVILLE
 SANDERG, RONALD KENNETH, KNOXVILLE
 SCHAEFER, BARRETT A, KNOXVILLE
 SEGARS, JAMES HUGH, KNOXVILLE
 SEATON, OUGLAS Y, KNOXVILLE
 SEATON, OUGLAS Y, KNOXVILLE
 SEXTON, DUGLAS Y, KNOXVILLE
 SEXTON, PARCHEDER, KNOXVILLE
 SENTH, BRUCE A, KNOXVILLE
 SHITH, BRUCE A, KNOXVILLE
 SHITH, BRUCE A, KNOXVILLE
 SHITH, BRUCE A, KNOXVILLE
 SHITH, WILLIAM R, PARK, KNOXVILLE
 SHITH, WILLIAM R, PARK, KNOXVILL

SUGANTHARAJ, CHRISTIANA R, KNOXVILLE
SULLIVAN, WH ROSS. KNOXVILLE
SUNDAHL, C GERALO, KNOXVILLE
SWANN JR, WH KIRK, KNOXVILLE
SWAET, JO GOROON, KNOXVILLE
TARATER, JEAN CATE, KNOXVILLE
TATUAR, ROBERT K, KNOXVILLE
TATUAR, SEAR JALTER, KNOXVILLE
TAYLOR, JAMES WALTER, KNOXVILLE
TAYLOR, KENNETH M. KNOXVILLE
TEAGUE, OALE ALEXANDER, KNOXVILLE
THOMPSON, ROBERT G, KNOXVILLE
THOMPSON, ROBERT G, KNOXVILLE
TOMKINSON, ELSIE VANNATTA, LOUDON
TOMKINSON, ELSIE VANNATILLE
TRENT, BILLY CARD, KNOXVILLE
TRENT, SILLY CARD, KNOXVILLE
TRENT, SILLY CARD, KNOXVILLE
VICKERS JR., MARYIN MABER, KNOXVILLE
WALLER, DAIGH MARYIN, KNOXVILLE
WALLER, SILLIAM JR., KNOXVILLE
WALLER, ROBERT NOW, KNOXVILLE
WALLER, ROBERT NOW, KNOXVILLE
WALLER, ROBERT NOW, KNOXVILLE
WALLER, ROBERT NOW, KNOXVILLE
WHITINGON, JOSEPHAN CERMANTON
WHITTHON, HONDAY HALE
WHITING, LECH NEW, KNOXVILLE
WHITING, LECH NEW, KNOXVILLE
WHITING, DAIR OR REMANTING
WHITTHER, BOUDON, KNOXVILLE
WHITING, PAUL FRANCE, KNOXVILLE
WHITING, LONDAR

LAKEWAY MEDICAL SOCIETY

LAKEWAY MEDICAL SOCIETY

ALEXANDER, WM KING, MORRISTOWN

* ALLEN, ERMAN OALE, WHITE PINE
AMADOR JR. JUSF GARCIA, MORRISTOWN
ANDREWS, DOUGLAS EUGENE, MORRISTOWN
BARCLAY, LEE ROY, MORRISTOWN

* BELLAIRE, MACK J, "ORRISTOWN
BLOKER, BURT L, "ORRISTOWN
BROCK, HOWARD THOS, MORRISTOWN
BROCK, HOWARD THOS, MORRISTOWN
BWEAVICH, ALFRED PETER, MORRISTOWN
BUKEVICH, ALFRED PETER, MORRISTOWN
CALOWELL, JOHN OUNALD, MORRISTOWN
CARVER, MICHAEL C, MURRISTOWN
CARVER, MICHAEL C, MURRISTOWN
CARVER, MICHAEL C, MURRISTOWN
CHUNG, SUNG JANG, "ORRISTOWN
OARBY, OEMAYNE P, JEFFERSON CITY
OEES, OONALO R, JEFFERSON CITY

OUBY JR, CLARENCE JOS; MORRISTOWN
ELLIS JR, JOHN W, JEFFERSON CITY
FETZER JR, JOHN WOODOOM, JEFFERSON CITY
FULK, CHAKLES S, MORRISTOWN
FUSON, PHILIP LEE, MORRISTOWN
GANON, PIERRE PAUL, MORRISTOWN
GANEM, SALEM F, MORRISTOWN
GODOARO, JOSEPH P, MORRISTOWN
GRORENE JR, OAVIO LOUIS, MORRISTOWN
GROREMELD, WM ROBT, MORRISTOWN
GUTCH III, WM JOHN, MORRISTOWN
HELMS, CRAMPTON HARPIS, MORRISTOWN
HICKMAN JR, JAMES H, LOWLAND
HILL, TENNY JACOB, RUTLEOGE
HOWARD, JESSIE EUGENE, JEFFERSON CITY
JAMISON, ROBERT ALLEN, MORRISTOWN
KINSEN, JOHN H, MORRISTOWN
KINSEN, JOHN H, MORRISTOWN
KINSEN, JOHN H, MORRISTOWN
LINOSEY, CHARLES HUGH, MORRISTOWN
LUNCY III, ORLANDA R, MORRISTOWN
MCKNICHT, RUSSEL O, MORRISTOWN
MCKNICHT, RUSSEL O, MORRISTOWN
MCKNICHT, RUSSEL O, MORRISTOWN
MCKNICHT, RUSSEL O, MORRISTOWN
MCREIL, OAVIO WYATT, MORRISTOWN
MCREUT, ESTLE PEPSHING, JEFFERSON CITY
PRESUTTI, HENKY J, MORRISTOWN
MCREIL, JAPPINO, MORRISTOWN
MRESS, GEORGE M, MORRISTOWN
TINDALL, J RAYMIND, MORRISTOWN
TINDALL, J RAYMIND, MORRISTOWN
TINDALL, J RAYMIND, MORRISTOWN
TINDALL, J RAYMIND, MORRISTOWN
TRUSLER, POWELL MADEN, MORRISTOWN
THE SLEER, SANORA BEALL, MORRISTOWN
THE SLEER, SOMORA BEALL, MORRISTOWN
THE SLEER, SOMORA BEALL, MORRISTOWN
THE SLEER, POWELL MADEN, MORRISTOWN
THE SLEER, POWELL MADEN, MORRISTOWN
THE SLEER, POWENT MEDICAL SOCIETY
HILKAITER, POWENT E, LAMPENFERING

LAWRENCE COUNTY MEDICAL SOCIETY

LAWRENCE COUNTY MEDICAL SOCIETY

BUCKALEM, ROLAND E, LAWRENCEBURG
CAMPBELL JR, EARL ROY, LAWPENCEBURG
CROMBER JM, VIRGIL HOLT, LAWRENCEBURG
CROWDER, VIRGIL H, LAWRENCEBURG
DAVIDSON, BOYD P, LAWRENCEBURG
GFEN, CALVIN AKTHUR, LAWRENCEBURG
HENDERSON, NUMMAN LERUY, LAWRENCEBURG
HUDGINS, J CARMACK, LAWRENCEBURG
HUDGINS, J CARMACK, LAWRENCEBURG
MANGUBAT, JAIME VIRAITA, WAYNESBOKO
MAURICIO, LILIA D, LAWRENCEBURG
METHYIN, KAY ELWIN, LORETTO
MOLLOY, LAUMENCE GENJ, LAWRENCEBURG
SUMHENCEM GENAM, JAYKAJ C, LAWRENCEBURG
STALEY, HUMFR LEE, LAWRENCEBURG
STALEY, HUMFR LEE, LAWRENCEBURG
TYYLOR, CARSON S, LAWRENCEBURG
TYYLOR, CARSON S, LAWRENCEBURG
TOWMAN, ALFRED, LAWRENCEBURG
TOWMAN, ALFRED, LAWRENCEBURG
MEATHERS JR, MALCULM H, LOPETTO

LINCOLN COUNTY MEDICAL SOCIETY

LINCOLN COUNTY MEDICAL SOCIETY

ASHRY, SAM MICHAEL, FAYETTEVILLE
BOLNER, ANNE URNEY, FAYETTEVILLE
CORB, PUDY THEODORF, FAYETTEVILLE
FISHBEIN, RICHARD, FAYETTEVILLE
GONDA, H & MALLAPPA, FAYETTEVILLE
MARSHALL, CLYVE B, ARDMUKE
MCCAULEY, DAVID R, FAYETTEVILLE
MCRAUY, JAMFS VAN, COLUMPIA
NOPMAN, MARREN T, FAYETTEVILLE
NOPMAN, MARREN T, FAYETTEVILLE
PATEL, YASHMANT P, FAYETTEVILLE
PATEL, YASHMANT P, FAYETTEVILLE
PATELY YASHMANT P, FAYETTEVILLE
RALSTON JK, THOS ALEX, EAYETTEVILLE
RALSTON JK, JUSSPH FKEO, FAYETTEVILLE
RALSTON JK, JUSSPH FKEO, FAYETTEVILLE
VOUNG, MM MC KINNEY, FAYETTEVILLE
MACON COUNTY MEDICAL SOCIETY

MACON COUNTY MEDICAL SOCIETY

CHITHUOD JR, CHAS C. LAFAYETTE • DECK JR, MARVIM EUWARD, LAFAYETTE

MARSHALL COUNTY MEDICAL SOCIETY

MARSHALL COUNTY MEDICAL SOCIETY

ALFREDSON, DAVIU G, LEWISBURG
DONNON, JAMES LEE, LEWISBURG
LEUNARD, JUHN CLAYENCE, LEWISBURG
MODGAN JK, HAKGUNT A, LEWISBURG
PHELPS JR, KENNETH J, LEWISBURG
PHELPS SR, KENNETH J, LEWISBURG
PHARCH, HM SAADN, LEWISBURG
RUTLEDGE, JONES FLANAGAN, LEWISBURG
SHARMA, N, LEWISBURG
SHARMA, N, LEWISBURG
TAYLUR, MM L, LEWISBURG
TAYLUR, MM L, LEWISBURG
TAYLUR, MM L, LEWISBURG
TEPEDING, MICHAEL J, LEWISBURG
VON ALMEN, JUS FRANKLIN, LEWISBURG
HOLCUTT, EUGENE S, LEWISBURG
MALINY COUNTY MEDICAL SOCIETY

MAURY COUNTY MEDICAL SOCIETY

ANDREAS, CLAUDIA S, COLUMPIA BALL, CHARLES A, MT PLEASANT BAPR, KALPH I, COLUMBIA BERRY. STUNEY A. COLUMBIA

SMITE, CHAS KICHARD, COLUMBIA
SKONN, JOHN PKESTUN MATTS, CULUMBIA
CARRAMAN, DAVID NEAL, CULUMBIA
CLIFFORD JR, KUFUS P, CULUMBIA
DAKE, THIS SCUTT, CULUMBIA
DANIEL, ESLICK EMING, CULUMBIA
DAVIS, PATRICIA CLIFFUND, COLUMBIA DAVIS, PATRICIA CLIFFUMO. COLUMBIA DUNCAN, THOS KAY. COLUMBIA DERNELL. HAPPUD AILFY. COLUMBIA FIFOLER JR. GEO ADDIPH. CCLUMBIA FITTS JR. JAMES MORGAN. COLUMBIA GARDMER JR. CARL C. COLUMBIA GARDY JR. JANE JOGER. COLUMBIA HARGOVE, JOLL T. CULUMBIA HARMON JR. RUY F. CULUMBIA HARMON JR. RUY F. CULUMBIA HARMON JR. RUY F. COLUMBIA HARMON JR. RUY F. COLUMBIA

HARTMAN, PATRICK ERMIN, COLUMBIA
MARTMAN, PATRICK ERMIN, COLUMBIA
MAWELL, VALTUN CARDEN, CGLUMBIA
MAUSMANN, JAN M, COLUMBIA
MHORDN, GEUPGE J, COLUMBIA
MUDSON, CHAS CRAIG, COLUMBIA
JERNIGAN, MILLIAM N, COLUMBIA
JONES, MELEN G, COLUMBIA
KELLEY, JAMES MRINKLEY, COLUMBIA
KUSTOFE, KALPH, COLUMBIA
KUYKENDALL, SAM J, COLUMBIA
KUYKENDALL, SAM J, COLUMBIA
LANGLEY, MUDERT E, COLUMBIA
LANGLEY, MUDERT E, COLUMBIA
LAY, ALLYN MONROE, CULUMBIA
LEACH, JAMES M, COLUMBIA
MAYFIELD JR, GED KADFURD, CULUMBIA
MILLEK, CLAY R, COLUMBIA
MAYFIELD JR, GED KADFURD, CULUMBIA
MILLEK, CLAY R, COLUMBIA
MICKELL, LAMKENCE R, COLUMBIA
OLSON, JOHN MICHAND, COLUMBIA
OLSON, JOHN MICHAND, COLUMBIA
OVERION, MARY E, COLUMBIA

SUUTHAVEN, MS

NICKELL, LAMKENGE R. COLUMBIA
OLSON, JOHN KICHAKO. COLUMBIA
OVERTON. MAMY E. CULUMBIA
OVERTON. MAMY E. CULUMBIA
SUTHAVEN, MS
PROVUST, EURIN K. MONTERGLE
RAYBURN JR. M TAYLOR. CULUMBIA
RINEHART, DAKKELL. CULUMBIA
ROBINSON II. AM ALLISON. CULUMBIA
SEYMUNE. METER MAKK. COLUMBIA
SIMMUNS. STEPHEN P. COLUMBIA
SITHART, AILLIAM K. CULUMBIA
STEMART, AILLIAM K. CULUMBIA
STEMART, AILLIAM K. CULUMBIA
THOMPSON JK. KOMI GULKIN, COLUMBIA
THOMPSON JK. KOMI GULKIN, COLUMBIA
TOBAN, MAHAMED MONTAL, COLUMBIA
VINSON, BILLY JUE. CULUMBIA
MHITE, THUS KAY, COLUMBIA
MHITE, THUS KAY, COLUMBIA
MILBURN, CHANES D. COLUMBIA
MILBURN, CHANES D. COLUMBIA
MILLIAMS JR. JOHN O. MUUNI PLEASANT
YUNNG JR. THUS KAY. COLUMBIA
MILLIAMS JR. JOHN O. MUUNI PLEASANT
YUNDG JR. THUS KAY. COLUMBIA

McMINN COUNTY MEDICAL SOCIETY

ENGLEMONU

McMINN COUNTY MEDICAL SOCIETY

ACKADUY, GEO E A. ATHENS
BOLIN. WILLIAM P. ATHENS
BOWERS, MM RICHARD. ATHENS
BOWERS, MM RICHARD. ATHENS
BOWERS, MM RICHARD. ATHENS
BOWROUGHS II. AALLACE F. ATHENS
CLEVELAND. JAMES FRANKLIN. ENGL
CURTIER. LEWIS DEMPSEY. ATHENS
DAVIS, MM MAYFIFLD. ATHENS
DAVIS, MM MAYFIFLD. ATHENS
DENTON. STEPMEN L. ENGLEWOOD
ERCEN. FRED J. ATHENS
GREFNLAM, KOBERT K. ATHENS
GREFNLAM, KOBERT K. ATHENS
GREFNLAM, KOBERT K. ATHENS
GREFNLAM, KOBERT K. ATHENS
HAGGIS, LARPY JACKSON. ATHENS
HEHGLEY, KUST GARDNER. ATHENS
JUNES, MILNOR. ATHENS
LEE, YUNG GIL. ETOMAH
LEIT, MICHAEL F. ATHENS
LEE, YUNG GIL. ETOMAH
LEIT, MICHAEL F. ATHENS
MCKENZIE, JUHN CARL. ATHENS
MORTIS, MM GOURPIEP. ATHENS
MONTGUMERY SK, JUHN L. ATHENS
MONTGUMERY SK, JUHN L. ATHENS
MONTGUMERY SK, JUHN L. ATHENS
MORRIS, MM GOURPIEP. ATHENS
DREMEIER, STEPHEN. ATHENS
SCHMIGGE, PAUL. ATHENS
SCHMIGGE, PAUL. ATHENS
SCHMIGGE, PAUL. ATHENS
SONI, MERISH BARULAL. ETOMAH
VONTICER, KORT MM. ATHENS
SONI, MERNISH BARULAL. ETOMAH
VARITHER, KORT MM. ATHENS
WHITTHER, KORT MM. ATHENS
WHITTHER JR. HERMENT P. CHARLEST

ATHENS

TROTTER, KOST AM, ATHENS
WHITTLE JK, HERSERT P, CHARLESTUN
WILLIAMS, THOS MOLFORD, ETDWAH

MEMPHIS-SHELBY COUNTY

MEDICAL SOCIETY

MEDICAL SUCIETY

ACKERNAN, ROHT F. MEMPHIS

ACCUFF, JAMES DE MEMPHIS

ADAMS JUNN UN MEMPHIS

ADAMS, JUNN UN MEMPHIS

ADAMS, LORENZO H. MEMPHIS

ADAMS, LORENZO H. MEMPHIS

ADAMS, RUGERT L. MEMPHIS

ADAMS, RUGERT L. MEMPHIS

ADAMS, FORT FRANKLIN, MEMPHIS ADCOCK III, FRANK JOHN, COROUVA AUKINS, HENRY EFIGH, MEMPHIS * ADLER, JUSTIN H. HEMPHIS

* AIVAZIAN, GAMABED HAGOP, MEMPHIS

AKRIK, MOMAMO J., MEMPHIS

AKRAS, MOMAMO THUS, MEMPHIS

AKINS, CHARLES D., MEMPHIS

AKINS, CHARLES D., MEMPHIS

ALARASTEM, ALON A., MEMPHIS

ALARASTEM, ALON A., MEMPHIS

ALEXANDER JR., ALSERT M., MEMPHIS

ALI, ZENAB ANMED. MEMPHIS

ALI, ZENAB ANMED. MEMPHIS

ALIRITEM, JAMES F., MEMPHIS

ALLEN, CHASTEM G., MEMPHIS

ALLEN, FRANK S., GERMANTUMN

*ALLEN, FRANKLIN M., SOMERVILLE

ALSTON, JUMES L., MEMPHIS

ANDRESON, GARLAND O., MEMPHIS

ANDERSON, JOC PAT. MEMPHIS

ANDERSON, JOC PAT. MEMPHIS

ANDERSON, JOC PAT. MEMPHIS

ANDERSON, MEITH. MEMPHIS

ANDERSON, METHA, MEMPHIS

ANGERS, M. F., MEMPHIS

ANGERS, M. F., MEMPHIS

ANGERS, M. F., MEMPHIS

ANGERS, JUMN JUSEPH. MEMPHIS

ANGERS, JUMN JUSEPH. MEMPHIS

ANGERS, JUMN JUSEPH. MEMPHIS

ANGERS, JUMN HERBEZT, MEMPHIS

AKIN, CHAS MICHARD, MEMPHIS

ARKIN, CHAS MICHARD, MEMPHIS

ARKIN, CHAS MICHARD, MEMPHIS

AKIN, CHAS MICHARD, MEMPHIS

ATHOROM, MICHARD AGAMO, MEMPHIS

ATHOROM, MICHARD AGAMO, MEMPHIS

ATHOROM, WICHARD AGAMO, MEMPHIS

ATKINSON, WICHARD AGAMO, MEMPHIS

AUSTIN, JOHN LINDSAY, MEMPHIS

AUSTIN, JOHN LINDSAY, MEMPHIS

BAKER, JUSE, MEMPHIS

BAKER, MUSICHAN, MEMPHIS

BAKER, WUY M., MASHINGTON, MEMPHIS

BAKER, JUSE, MEMPHIS

BAKER, MUSICHAN, MEMPHIS

BAKER, WUY M., MASHINGTON, MEMPHIS

BAKER, JUSE, MEMPHIS

BAKER, WUY M., MASHINGTON, MEMPHIS

BAKEN, GLOUVER M., MEMPHIS

BAKEN, HAMIS CHEMPHIS

BAKEN, HEMPHIS

SEATUS JR. JENJ COUTS, MEMPHIS

BEATY JR. JAMES MARPIO. MEMPHIS

BEATY JR. JAMES MARPIO. MEMPHIS

BEEL JR. LMMEIT DIXON. MEMPHIS

BEEL JR. LMMEIT DIXON. MEMPHIS

BEELL OAVID MITCHFLL, MEMPHIS

BFLL. DAWID MALDEN. MEMPHIS

BFLL. JAMES SPENCER. MEMPHIS

BELL. STEVEN MUNTER, MEMPHIS

BENTHALL. CANJL. MEMPHIS

BICKS, RICHARJ U. MEMPHIS

BIFLSKIS JR. HILLIAM M. MEMPHIS

BIFLSKIS JR. HILLIAM M. MEMPHIS

BIFLSKIS JR. HILLIAM M. MEMPHIS

BISHOP. CALVIN R. MEMPHIS

BLAIR. JOHN KUDNEY. MEMPHIS

BUALS. JAMES M. MEMPHIS

BOONE, MEMBERT M. MEMPHIS

BOONE, MOBERT M. MEMPHIS

BOOTH, JAMES E. MEMPHIS

BOTH, MEMBERT

BOTH, MEMPHIS

BOTH, MEMPHI

HONNE, THIPAYAN, MEMPHIS
BUSTN, JAMES LIVINGSTON, MEMPHIS
BUSTNN, HARRY, MEMPHIS
BUSHELL, JAMES LIONEL, MEMPHIS
BUSHELL, HICHARD LEE, MEMPHIS
BUUDLAND JR. POMT LEGN, MEMPHIS
BUUDLAND, MM LANDESS, MEMPHIS
HUMEN, JANET MILDER, CARY, NC
"JOJERMAN, EAKL P. MEMPHIS
BY AUTON, MORE STREET, MEMPHIS
BY AND JR. ALLEN STREET, MEMPHIS
BRANTLEY, J HAYS, MEMPHIS
BRANTLEY, J HAYS, MEMPHIS
BRANT, MISTUN, MEMPHIS
BRANTLEY, J HAYS, MEMPHIS MEMPHIS

RRITT, LOUIS GJOUND, MEMPHIS
BRIONSTEIN, MICHAEL L. MEMPHIS
BROWSTEIN, MICHAEL L. MEMPHIS
BROWN, JAMES S. MASHVILLE
BROWN, JAMES S. MASHVILLE
BROWN, JAMES S. MASHVILLE
BROWN, JAMES S. MASHVILLE
BROWN, JAMES S. MEMPHIS
BRYANT, JAMES W. MEMPHIS
BRYANT, JAMES W. MEMPHIS
BUCHLEY JR. MADISON H. MEMPHIS
BURNELT III. GOR MEMPTIS CERMANTOMN
BURNELT III. GOR MEMPTISON H. MEMPHIS
BURNELT MALLAGET PECK, MEMPHIS
BURNELT MALLAGET PECK, MEMPHIS
BUTHEN, WILLIAM JUEP, MEMPHIS
BUTHEN, BUJUDITY AND HEP.
BUSTON HILLIAM JUEP,
BUSTON HEMTAM HERS, MEMPHIS
BUTHEN, DUBOTHY AND HER MEMPHIS
CAFEY, SMED H. MEMPHIS
CAFEY, SMED H. MEMPHIS
CALANDRUCCIJ, ROCCO A. MEMPHIS
CALANDRUCCIJ, ROCCO A. MEMPHIS
CALANDRUCCIJ, ROCCO A. MEMPHIS
CAMALE, JAMES S. MEMPHIS
CAMALE, DE JAMES, MEMPHIS
CAMALE, JAES LAMFENE, MEMPHIS
CANALE, JAEST LAMFENE, MEMPHIS
CAMALE, JAEST LAMFENE, MEMPHIS
CARA JR. JULIUS L. MEMPHIS
CARTER, LJUIS YL MEMPHIS
CASTELLA, MANCA ALLAN, MEMPHIS
CASTELLA, MANCA ALLAN, MEMPHIS
CASTELLA, MANCA ALLAN, MEMPHIS
CHAMBERALIT, MEMANDAN, MEMPHIS
CHAMBERALIT, MEMPHIS
COMEN, JUNN DARRES MEMP

- CUMMINGS, JOHN M, MEMPHIS
 CUMMINS, ALVIN JOS, MEMPHIS
 CUNNINGHAM, DAVID LANE, MEMPHIS
 CURLE, RAY EUGENE, MEMPHIS
 CURREY, THOS ARTHUM, MEMPHIS
 CURTIS, KAKEN LDUELLA, MEMPHIS

- CURTIS, KAKEN LDUELLA, MEMPHIS
 DANG, LUU HOY, GERMANTUM
 DAUGHERTY, DAVIO R, MEMPHIS
 DAVIOS DIII, ORL'U, MEMPHIS
 DAVIS JR, JESSE THEO, MEMPHIS
 DAVIS JEN A JESSE THEO, MEMPHIS
 DE SAUSSUKE JK, R. L. MEMPHIS
 DE SAUSSUKE JK, R. MEMPHIS
 DE SAUSSUKE JK, R. MEMPHIS
 DE SAUSCO, JOSEPH A. MEMPHIS
 DEALL, DIANA MEMPHIS
 DELLINGER JK, HUSERT L. MEMPHIS
 DELLINGER JK, HUSERT L. MEMPHIS
 DELLINGER JK, HUSERT L. MEMPHIS
 DEHNSEY, BUCKLEY KIRAKO, GERMANTOMN
 DEMPSEY, HONAS JACKSON, MEMPHIS
 DEWAKE, JOSEPH C. MEMPHIS
 DICKALL, DIANA O. MEMPHIS
 DICKALL, DIANA O. MEMPHIS
 DICKASE, MELVIN AAYNE, MEMPHIS
 OILMARI, KAZA ALI, MEMPHIS
 OILMARI, DON ELM, MEMPHIS
 OILMARI, DON ELM, MEMPHIS
 OILMARIS, DON ELM, MEMPHIS
 OISMUKE, JEWAPT EDNAKOS, MEMPHIS
 OISMUKE, JEWAPT EDNAKOS, MEMPHIS
 OISMUKE, TOWN MEMPHIS
 OODSON, JUHN M, MEMPHIS
 OODSON, JUHN M, MEMPHIS
 OODSON, JUHN M, MEMPHIS
 ODDONS, JOHN M, MEMPHIS
 ODDONS, JOHN M, MEMPHIS
 ODDONS, JOHN M, MEMPHIS
 ODDONS, JOHN M, MEMPHIS
 ODWAS, DON MEMPHIS
 OUGHENTIN, JUHN SEKNARO, MEMPHIS
 OWARC, ANDOLD MANAS, MEMPHIS
 OUGHEN TH, JUHN KELLY, MEMPHIS
 OUGHALA, VIJANA LA MEMPHIS
 OUGHALA, VIJANA CH, MEMPHIS
 OUGHALA, VIJANA CH, MEMPHIS
 OUGHALA, VIJANA CH, MEMPHIS
 OUNGAN, JAANA LEKANDER, MEMPHIS
 OUNGAN, JAANA LEKANDER, MEMPHIS
 OUNGAN, MEMPHIS
 FISHER, WALLY, MEMPHIS
 ENON, JOHN ON MEMPHIS
 ENON, JOHN ON MEMPHIS
 ELININ, KICHALAS, MEMPHIS
 ELININ, KICHALAS, MEMPHIS
 FISHER, WALLY WANDAN, MEMPHIS
 FISHER, WALLY WANDAN, MEMPHIS
 FISHER, WALLY WANDAN, MEMPHIS
 FISHER, MARMIDUN, MEMPHIS
 FISHER, WALLY WANDAN JAMES, MEM

- FORTUNE, JAMES EVEREIT, MEMPHIS
 FOUNTAIN JR, FRANCIS F, MEMPHIS
 FOMLER, TOMMY S, MEMPHIS
 FRANCIS JR, HUGH, MEMPHIS
 FRANCIS JR, HUGH, MEMPHIS
 FRANKLIN, EDGGAR X, MEMPHIS
 FRANKLIN, EDGGAR X, MEMPHIS
 FREMAN, CHAS EUGENE, MEMPHIS
 FREER, LDVELY ARZETTA, MEMPHIS
 FREER, LDVELY ARZETTA, MEMPHIS
 FREEMAN, JERKE MINDR, MEMPHIS
 FREEMAN, JERKE MINDR, MEMPHIS
 FREEMAN, JERKE MINDR, MEMPHIS
 FREEDRAN, HARRY, MEMPHIS
 FUSTE, RICARDO R, MEMPHIS
 GAUSTE, THOMA SALTER, MEMPHIS
 GALVEAY, JAMES K, MEMPHIS
 GALVEAY, JAMES HENDRE, MEMPHIS
 GALVEAY, JAMES HENDRE, MEMPHIS
 GANDII, NANHAR CC. MEMPHIS
 GANDII, NANHAR CC. MEMPHIS
 GARNETI, HARVEY E, MEMPHIS
 GARONER, JOHN HARVEY, MEMPHIS
 GARONER, JOHN HARVEY, MEMPHIS
 GARVETT, HARVEY E, MEMPHIS
 GARVETT, HARVEY E, MEMPHIS
 GAY, JAMES R, LAKENDOD, PA
 GAY, JAMES R, LAKENDOD, PA
 GAY, JAMES, R, LAKENDON, MEMPHIS
 GEDRCE, LEHIS MATSON, MEMPHIS
 GEDRCE, LEHIS MATSON, MEMPHIS
 GEDRCE, LEHIS MATSON, MEMPHIS
 GEDRCE, JERRY MUSITON, MEMPHIS
 GERALD, JARYE LEHU, MEMPHIS
 GEDRCE, JALESTE, MEMPHIS
 GODTON, TIMUTHY GRAHAM, MEMPHIS
 GILLESPIE, TIMOTHY GRAHAM, MEMPHIS
 GODTON, JAKEN BUSITON, MEMPHIS
 HALLE, JOHN JAKEN, MEMPHIS
 HALLE, JOHN JAKEN, MEMPHIS
 HAARDH, WARASH, JAREN, MEMPHIS
 HAARSH, JAHES MEMPHIS
 HAARSH, JAHES MEMPHIS
 HAARSH,

DECEMBER, 1985 791

```
HAYS, RACHAEL ANN, MEMPHIS
HEAD, THOMAS GLENN, MEMPHIS
HECKEREYER, CRESTSINE ME, HOUVER, AL
HELLMAN, MICHAEL D, MEMPHIS
HENDRO, DONALD CLAUDE, MEMPHIS
HENDRO, LOUIE C, MEMPHIS
HENDRY, LOUIE C, MEMPHIS
HENDRY, LOUIE C, MEMPHIS
HISTORY, LOUIE C, MEMPHIS
HICKEY JR, HOMER DAYIU, MEMPHIS
HICKEY JR, HOMER DAYIU, MEMPHIS
HICKEY, GED BRAINARD, MEMPHIS
HIGGINBOITHAM, THOS MAYNE, MEMPHIS
HILL, FONTAINE S, MEMPHIS
HILL, JOANEN MARK, MEMPHIS
HILL, JAMES MARK, MEMPHIS
HILL, JAMES MARK, MEMPHIS
HILL, JOHN RUY, MEMPHIS
HILLS, MEWENS, MEMPHIS
HILLS, MEWENS, MEMPHIS
HILLS, LEUNARD HAKVEY, MEMPHIS
HOSOS, JUMN AC IVER, MEMPHIS
HOOGES, JUMN AC IVER, MEMPHIS
HOOGES, JUMN AC IVER, MEMPHIS
HOLLOMB, KANDALL L, MEMPHIS
HOLLOMB, KANDALL L, MEMPHIS
HOLLOMB, KANDALL L, MEMPHIS
HOLLOMS, MEMPHIS
HOLLOMS, MEMPHIS
HOLLOMS, MEMPHIS
HOLLOMS, MEMPHIS
HOLLOMS, MEMPHIS
HOLLOMS, JOHN PIERCE, MEMPHIS
HOLLOMS, JOHN PIERCE, MEMPHIS
HOLLOMY, JW, DAYID HOUT, MEMPHIS
HOLLOMY, JW, DAYID HOUT, MEMPHIS
HOLLOWS, JOHN PIERCE, MEMPHIS
HOLTHISS, HUBBERT, LECH, MEMPHIS
HOUSTON, GLENN EDDAGO, MEMPHIS
HOUSTON, JOHN STARM, MEMPHIS
HOUSTON, JOHN L, MEMPHIS
HOUSTON, JOHN L, MEMPHIS
HOUSTON, JOHN L, MEMPHIS
HOUSTON, JOHN L, MEMPHIS
HOUGHES, JOHN DAYIO, MEMPHIS
HOUGHES, MAKN CHEMPHIS
HOUGHES, MAKN CHEMPHIS
HOUGHES, JOHN DAYIS, MEMPHIS
HOUGHES, JOHN DAYIS, MEMPHIS
HOUGHES, JOHN BAYEN, MEMPHIS
HOUGHES, JOHN SHEED, MEMPHIS
HOUGHES, JOHN SHEED, MEMPHIS
HOUGHES, JOHN SHEED, MEMPHIS
HOUGHES, MERS GILLLIAM, MEMPHIS
HOUGHES, JOHN SHEED, MEMPHIS
JONES, WERE ALLE HOURS, MEMPHIS
JAMSON, JAHES GILLITH, MEMPHIS
JAMSON, JAHES GILLITH, MEMPHIS
JONES, HERNEY, MEMPHIS
JONES, HERNEY, MEMPHIS
JONES, HERNEY, MEMPHIS
JONES, JOHN SHEED, MEMPH
```

```
KAVANAGH, KEVIN I, CUPDOVA
KEIFER, ANNE I, MEMPHIS
KELLEY, BUBBY JERALD, MEMPHIS
KELLEY, BUBBY JERALD, MEMPHIS
KELLY, RICHARD I, MEMPHIS
KELLY, RICHARD I, MEMPHIS
KELLY, RICHARD I, MEMPHIS
KENDRICK JM, ALLILIAM RILEY, MEMPHIS
KENDRICK JM, ALLILIAM RILEY, MEMPHIS
KENDRICK JM, ALLILIAM RILEY, MEMPHIS
KERLAN, NOBI ASHLEY, MEMPHIS
KERSSLER, MEMPY G, MEMPHIS
KHANDEKAR, SUPHIA HAQUE, MEMPHIS
KHANDEKAR, SUPHIA HAQUE, MEMPHIS
KIEFER, PAISY R, MEMPHIS
KING, CHAS MACK, MEMPHIS
KING, CHAS MACK, MEMPHIS
KING, CHAS MACK, MEMPHIS
KING, CHAS MACK, MEMPHIS
KING, PAUL, MEMPHIS
KING, PAUL, MEMPHIS
KING, PAUL, MEMPHIS
KISABETH, ROBERT M, MEMPHIS
KISABETH, ROBERT M, MEMPHIS
KITABCHI, ABDAS LOBAL, MEMPHIS
KITABCHI, ABDAS LOBAL, MEMPHIS
KITABCHI, ADDAS LOBAL, MEMPHIS
KULIM, ROBERT M, MEMPHIS
KODNCH, MEMPHIS
KOLEYNI, ASGNAR, MEMPHIS
KRAUS, RUBERT M, MEMPHIS
LANGERD JA, C THUMAS, MEMPHIS
KRAUS, RUBERT M, MEMPHIS
LANGERD, MACK, MEMPHIS
LANGERD, AGRAN, MACK, MEMPHIS
LANGERD, MACK, MEMPHIS
LANGER, CARL GEU, MILLINGTON
LANGFORD JA, C THUMAS, MEMPHIS
LANGER, CARL GEU, MILLINGTON
LANGFORD JA, C THUMAS, MEMPHIS
LANGER, CARL GEU, MILLINGTON
LANGFORD JA, C THUMAS, MEMPHIS
LANGER, MACK, MEMPHIS
LANGER, CARL GEU, MEMPHIS
LANGER, CARL GEU, MEMPHIS
LANGER, CARL GEU, MEMPHIS
LANGER, MACK, MEMPHIS
LANGER, MACK, MEMPHIS
LANGER, MACK, MEMPHIS
LANGER, MEMPHIS
LANGER, MEMPHIS
LANGER, MEMPHIS
LOW, MEMPHIS
LOW, MEMPHIS
LOW, MEMPHIS
LOW, MEMPHIS
LOW, MEMPHIS
LOW, MEMPH
                                                                                                                                    MARRY, EDWARD HAYS, MEMPHIS MACHIN, JAMES ELLIOTT, MEMPHIS MACKEY, WM FREDERICK, MEMPHIS
```

```
MADDUX JK, H GENJAMIN, MEMPHIS
MADDUX, HOLT GENJ, MEMPHIS
MAGILL, HUREKT LYNN, MEMPHIS
MAGILL, HUREKT LYNN, MEMPHIS
MAGURE, JAMES M. MEMPHIS
MAGUIRE, JAMES M. MEMPHIS
MANGIRE, JAMES M. MEMPHIS
MANGIRE, JAMES M. MEMPHIS
MANGIRE, JAMES M. MEMPHIS
MANGILL, ALAN I, MEMPHIS
MANGELL, ALAN I, MEMPHIS
MANDELL, ALAN I, MEMPHIS
MANGELL, ALAN I, MEMPHIS
MANGIAN, ASSEM, MEMPHIS
MANNIN, JAMES ALAN, MEMPHIS
MANNIN, JAMES ALAN, MEMPHIS
MANGIAN, ASSEM, MEMPHIS
MARGENCHECK, M. MEMPHIS
MARGENCHECK, MEMPHIS
MARGENCHECK, MEMPHIS
MARGENCHECK, MEMPHIS
MARGENCHECK, MEMPHIS
MASON, M. M. HIGHLAND, NC
MASSIE, JAMES CA, MEMPHIS
MATTHEMS, ULIVER S. MEMPHIS
MAYFIELD, LEACY M. MEMPHIS
MAYFIELD, LEACY M. MEMPHIS
MAYFIELD, LEACY M. MEMPHIS
MAYFIELD, LEACY M. MEMPHIS
MCCALLOHAN JR. JOHN JOE, MEMPHIS
MCCALIGHAN JR. JOHN JOE, MEMPHIS
MCCALORAN JR. JOHN JOE, MEMPHIS
MCCANTER, JAMES EALL, MEMPHIS
MCCANTER, JAMES EALL, MEMPHIS
MCCANTER, JAMES EALL, MEMPHIS
MCCANTER, JAMES ENDAMY, MEMPHIS
MCLANTY, ALEACHOCK, MEMPHIS
MCLANTY, ALEACHOCK, MEMPHIS
MCLANTY, JANES PLAYEN, MEMPHIS
MONGER, JAMES AND MEMPHIS
M
```

```
MUJUSTAFA, SALMA, "EMPHIS
MROZ, CHRISTINF F, MEMPHIS
MROJCHAN, ERNEST ERIC MEMPHIS
MUJUSHAO, ERNEST ERIC MEMPHIS
MUJUSHAO, ERNEST ERIC MEMPHIS
MUNN, CHARLES M. WEMPHIS
MUNN, CHARLES M. WEMPHIS
MURDHY, ERANLIS, NAPLES, FL
WURPHY, DATRICK J. MEMPHIS
MUPPHY, PATRICK J. MEMPHIS
MURPHY, MALTER MENEY, MEMPHIS
MURPHY, WALTEN MENEY, MEMPHIS
MURPHY, WA MUNT, MEMPHIS
MURRHY, WA MUNT, MEMPHIS
MURRAY, IAN ERRWELL, MEMPHIS
MURRAY, IAN ERRWELL, MEMPHIS
NAG, SUBIK K. MEMPHIS
NAG, SUBIK K. MEMPHIS
NAG, WASTANLEY, MEMPHIS
NAG, WASTANLEY, MEMPHIS
NAHAYANAN, MANDJ, MEMPHIS
NAWAF, KAYS, MEMPHIS
NEELY JR. CHAS LLEA, MEMPHIS
NEWAN, IANG LLEA, MEMPHIS
NEWAN, IANG LLAKE BUTLER, FL
MOUVEN, THEN DUC, LAKE BUTLER, FL
MOUVEN, THEN DUC, LAKE BUTLER, FL
MOUVEN, THEN DUC, LAKE BUTLER, FL
MOUVEN, THEN DUC, MEMPHIS
NICHODS, TRENT LLEE, MEMPHIS
NICHOPALL NORMAN, MEMPHIS
NORLES JR, FUGFR, RODMAN, MEMPHIS
NORLES JR, FUGFR, RODMAN, MEMPHIS
NORLES JR, FUGFR, RODMAN, MEMPHIS
NORTHERN JR, AM L. MEMPHIS
NORTHERN JR, AM L. MEMPHIS
OCH, MEMPHIS
OCH, MEMPHIS
NORTH, WAS CLAUSE JUNN, MEMPHIS
OCH, MEMPHIS
OCH, SPETERY JR MEMPHIS
OCH, MEMPHIS
NORTH AND SANDLES, MEMPHIS
OCH, FULLY MASSI, MEMPHIS
OCH, FULLY MASSI, MEMPHIS
OLINGER, RODNEY GLENN, MEMPHIS
OLINGER, RODNEY GLENN, MEMPHIS
OLINGER, RONNEY GLENN, MEMPHIS
OLINGER, RONNEY GLENN, MEMPHIS
OLINGER, RONNEY GLENN, MEMPHIS
OLINGER, RONNEY GLENN, MEMPHIS
DERFIT JR, P. E, MEMPHIS
DERFIT JR, P. E, MEMPHIS
DERFIT JR, P. E, MEMPHIS
PACKER, FRANK U, MEMPHIS
PARSON, SIAMES HALVEY, MEMPHIS
PARGER, ON SAM PULLY, MEMPHIS
PARGER, ON SAM PULLY, MEMPHIS
PARTER, HOAS H, MEMPHIS
PROTER, HOUSE JR, MEMPHIS
PROTER, HOUSE JR, MEMPHIS
PROTER, HOUSE JR, MEMPHIS
PROBLES, JAMES ALLEY, MEMPHIS
PROTER, HOUSE JR, MEMPHIS
PROTER, HOUS
```

MEAPHIS. AK

```
PRICE, JAMES HOWARD, MEMPHIS
PRIDGEN, STEPHEN ALLEN, MEMPHIS
PRICOEN, STEPHEN ALLEN, MEMPHIS
PRICOEN, STEPHEN ALLEN, MEMPHIS
PRICOEN, STUSSELL JAY, MEMPHIS
PROCTOR, RUSSELL JAY, MEMPHIS
POUTHAN, BILLIE HARTLO, MEMPHIS
OUINN III, PETER JOS, MEMPHIS
RADA III, JOHN 5, MEMPHIS
RADA III, JOHN 5, MEMPHIS
RAGHANAHAN, NAMEJUR, MEMPHIS
RAHMAN, MAHEJUR, MEMPHIS
RAHMAN, MAHEJUR, MEMPHIS
RAHMAN, MAHEJUR, MEMPHIS
RAINES, SAML LUCAS, MEMPHIS
RAINES, SAML LUCAS, MEMPHIS
RAHMAN, HANDONAY, MEMPHIS
RAMANAHAN, JAYA, MEMPHIS
RAMOULPH, JERXY F, MEMHIS
RAMANIHAN, JAYA, MEMPHIS
RAMOULPH, JERXY F, MEMPHIS
REQUED, JOHN JOHN JONES, MEMPHIS
REGUE, SCHARD, MC CORNICK, MEMPHIS
REAVES, EWARD, MC CORNICK, MEMPHIS
REAVES, EWARD, MC CORNICK, MEMPHIS
REEGE, DHARD ALLSIUM, MEMPHIS
REGUE, MENDRY JHANDAY, MEMPHIS
REGUE, MORATO, MEMPHIS
REGUE, MORATO, MEMPHIS
REGUE, MORATO, MEMPHIS
REGUE, MARK LUVO, MEMPHIS
REGUE, MARK LUVO, MEMPHIS
RESSER JR, HANCEY C, MEMPHIS
ROBALSON, JR, JOHN SCHAPPHIS
ROBALSON, JRASS A, MEMPH
```

```
SEALS, JAMES L, BEMPHIS
SEBSS, JEND IMRE, MEMPHIS
SEGAL, ANTHONY, MEMPHIS
SEGAL, ANTHONY, MEMPHIS
SEGAL, JACK, MEMPHIS
SEGAL, JACK, MEMPHIS
SEGAL, MAURICE P, MEMPHIS
SEGENON, EDMARD C, MEMPHIS
SEXTON, RAY OAEN, MEMPHIS
SHAH, VINDO H, GERMANTOWN
SHANKLIN, DOUGLAS R, MEMPHIS
SHAPIRO, NOWMAN D, GERMANTOWN
SHAPPLEY JR, WM VANCE, MEMPHIS
SHAPIRO, NOWMAN D, GERMANTOWN
SHAPPLEY JR, WM VANCE, MEMPHIS
SHEA JR, JOHN JOS, MEMPHIS
SHEA JR, JOHN JOS, MEMPHIS
SHEA JR, MARTIN COYLE, MEMPHIS
SHEARIN, ROBT P N, MEMPHIS
SHELTON, BRIXEY R, MEMPHIS
SHELTON, BRIXEY R, MEMPHIS
SHELTON, JAMES R, HEBER SPRINGS, AR
SHERROOO II, ROME, MEMPHIS
SHERROOO ALLEN T, MEMPHIS
SHERROON ALLEN T, MEMPHIS
SHERROON ALLEN T, MEMPHIS
SIEGEL, JEROME SEYMOUR, MEMPHIS
SIEGEL, JEROME SEYMOUR, MEMPHIS
SIEGEL, SAUL, MEMPHIS
SIEGEL, SAUL, MEMPHIS
SIEGEL, SAUL, MEMPHIS
SIEGER, JAMES C, MEMPHIS
SIEGER, JAMES C, MEMPHIS
SIKS, THOS DAVIO, MEMPHIS
SISSMAN, PAUL R, MEMPHIS
SISSMAN, PAUL R, MEMPHIS
SISSMAN, PAUL R, MEMPHIS
SKINH, CLYDE GAYLON, MEMPHIS
SMITH JR, VENNON I, MEMPHIS
SMITH, CAROL ANN, MEMPHIS
SMITH, CAROL ANN, MEMPHIS
             * SMITH JR, HUGH MILRY A, MEPPHIS
SMITH JR, VERNON I, MEMPHIS
SMITH, ANOREA L, CLARKSOALE, MS
- SMITH, CLYDE GAYLON, MEMPHIS
SMITH, CLYDE GAYLON, MEMPHIS
SMITH, STANLEY L, MEMPHIS
SMITH, STANLEY L, MEMPHIS
- SMITH, SULLIVAN K, COOKEVILLE
SMITH, YINCENT O, MEMPHIS
SMITH, WINCENT WEMPHIS
SMIDER, CHARLES VAN, MEMPHIS
SNIOER, CHARLES VAN, MEMPHIS
SOURE, OUMEN ERVIN, MEMPHIS
SOHM, JOHN J, MEMPHIS
SOLEE JR, ARTHUR NEYLE, MEMPHIS
SOLEE JR, ARTHUR NEYLE, MEMPHIS
SOLEE JR, ARTHUR NEYLE, MEMPHIS
SOLER, RICHARU GRAVES, MEMPHIS
SPENCER, JUDY, MEMPHIS
SPIOTTA, EUGENE JS, MEMPHIS
SPIOTTA, EUGENE JS, MEMPHIS
SPENCER, JUDY, MEMPHIS
SPIOTTA, EUGENE J. MEMPHIS
SPIOTTA, EUGENE JOS, MEMPHIS
SPIOTTA, EUGENE JOS, MEMPHIS
SPIOTTA, EUGENE JOS, MEMPHIS
STANFORO, CARL COOPER, MEMPHIS
STANFORO, JAMES FRANKLIN, MEMPHIS
STANKEY JR, THOS V. MEMPHIS
STANKEY JR, THOS V. MEMPHIS
STARK, PAY CINGLES, MEMPHIS
STERN, JASON LEONARD, MEMPHIS
STEIN, LEE S, MEMPHIS
STEIN, CAYLO L. MEMPHIS
STEIN, CAYLO L. MEMPHIS
STEYIZ, OAVIO L. MEMPHIS
STEYENSON, CLOW MEMPHIS
STEWNSON, EOWARD N. MEMPHIS
STEVENSON, COLO HILSON, MEMPHIS
STEVENSON, ROBIN MALCOLM, MEMPHIS
STEVENSON, ROBIN MALCOLM, MEMPHIS
STEVENSON, ROBIN MALCOLM, MEMPHIS
STEVART, SHERKILL BRYCE, MEMPHIS
STRAIN, SAML FREDERICK, MEMPHIS
STUBBLEEIELD, ROBT J, MEMPHIS
SULLIVAN, JAY MICHAEL, MEMPHIS
SULLIVAN, JAY MICHAEL, MEMPHIS
SULLIVAN, JAY MICHAEL, MEMPHIS
SUTHLAGA, VICTOR I, HILMINGTON, NC
SHAMY, ALAGIRI P, MEMPHIS
SUYHLLAGA, VICTOR I, HILMINGTON, NC
SHAMY, ALAGIRI P, MEMPHIS
SUYHLLAGA, VICTOR I, HILMINGTON, NC
SHAMY, ALAGIRI P, MEMPHIS
SUYHLLAGA, VICTOR I, HILMINGTON, NC
SHAMY, ALAGIRI P, MEMPHIS
TARDR, OHEN BRITT, MEMPHIS
TARDR, OHEN BRITT, MEMPHIS
TARDR, OHEN BRITT, MEMPHIS
TACKET, HALL SANEGRO, MEMPHIS
TAYLOR III, HERBERT LA, MEMPHIS
TAYLOR III, HERBERT LA, MEMPHIS
TAYLOR JOHN CHARLES, MEMPHIS
TAYLOR JOHN CHARLES, MEMPHIS
TAYLOR, ROBT CLARKE, MEMPHIS
TAYLOR, ROBT CLARKE, MEMPHIS
TEHUNE, RONALO LYTLE, MEMPHIS
TEHUNE, RONALO LYTLE, MEMPHIS
TEHUNE, RONALO LYTLE, MEMPHIS
TEHUNE, RONALO LYTLE, MEMPHIS
THOMPSON, BARRY F, MEMPHIS
THOMPSON, PAUL ANDREW, MEMPHIS
THOMPSON, PAUL ANDREW, MEMPHIS
THOMPSON, TERRY P, MEMPHIS
THOMPSON, TERRY P, MEMPHIS
THOMPSON, TERRY P, MEMPHIS
THOMPSON, TERRY P, MEMPHIS
```

793 DECEMBER, 1985

THOMRSON, ILLIAM 3. MEMPHIS
THREKERLD, MM CLEAGE. MEMPHIS
TICKLE, SAML MILIUM, MEMPHIS
TILLEAN, JON RAYMON, MEMPHIS
TILLEAN, DON RAYMON, MEMPHIS
TILLEAN, BONALO C. CURDOVA
TOON, TANA LU. MEMPHIS
TONKIN, ALLEN K. MEMPHIS
TONKIN, ALLEN K. MEMPHIS
TONKIN, ALLEN K. MEMPHIS
TONKIN, ALLEN K. MEMPHIS
TOWNS, ROST EDWIN, MEMPHIS
TOWNS, ROST EDWIN, MEMPHIS
TOWNS, ROST EDWIN, MEMPHIS
TOWNS, ALEXANDER S. MEMPHIS
TRAUP, ERIKA F. KEMPHIS
TRAUTMAN, ROBEPT J. MEMPHIS
TREAD, ALLEXANDER S. MEMPHIS
TREAD, ALLIN BARDY M. MEMPHIS
TOWNS, ALEXANDER S. MEMPHIS
TOWNS, ALLEXANDER S. MEMPHIS
TOWNS, TAILY MEMPHIS
TOWNS, ALEXANDER MEMPHIS
TOWNS, TAILY MEMPHIS
TOWNS, TOWNS, TOWNS, MEMPHIS
TOWNS, MEMPH

- WILLS, GORDON LEE, MEMRHIS
 WILSON, JR., JAMES EDMAND, MEMRHIS
 WILSON, ARTHUR JAMES, MEMPHIS
 WILSON, ARTHUR JAMES, MEMPHIS
 WILSON, DONALD PRUCE, MEMPHIS
 WILSON, HARRY WILLIAMSON, MEMPHIS
 WILSON, JAMES E, MEMRHIS
 WILSON, JOHN MC CULLUUGH, MEMPHIS
 WILSON, JOHN MC CULLUUGH, MEMPHIS
 WILSON, JOHN MC CULTURH, MEMPHIS
 WITHERINGTON III, JAMES B, MEMPHIS
 WITHERSPOON JN., FRANK C, MEMPHIS
 WOOD, ROONEY YALE, MEMPHIS
 WOOD II, GEDRGE M, MEMPHIS
 WOOD, THOS GVAL, MEMPHIS
 WOODD, THOS GVAL, MEMPHIS
 WOODDALL JK, JESSE C, MEMPHIS
 WOODBURY, GEO ROBST, MEMPHIS
 WOODBURY, LINDA L RLZAK, MEMRHIS
 WOODDALT, JK, JESSE C, MEMPHIS
 WOODBURY, LINDA L RLZAK, MEMRHIS
 WOOLLEY, CLIFTON MARD, MEMPHIS
 WOOTH, RICHARD LINDSEY, MEMRHIS
 WOTHEN, RICHARD LINDSEY, MEMRHIS
 WORRELL, JERRY LEWIS, MEMPHIS
 WRIGHT JK, FERD WRAVES, MEMRHIS
 WRIGHT JK, RERO WRAVES, MEMRHIS
 WRIGHT JR, LEDWARD D, MEMPHIS
 WRIGHT SHERYY LJEWES, MEMPHIS
 WRIGHT, SHERYY LJEWES, MEMPHIS
 WRUSLE, LAWRENCE DAVID, MEMPHIS
 WRUZBURG, MENRY, MEMPHIS
 WYLER, ALLEN X, MEMPHIS
 WYLER, ALLEN X, MEMPHIS
- WRUBLE, LAMRENCE DAVID. MEMPH
 WURZBURG, HENRY. MEMPHIS
 YARBYDUGH, RUBERT P. MEMRHIS
 YARBYDUGH, RUBERT P. MEMRHIS
 YATES. CLAUDE FRANK. MEMRHIS
 YATES, LINDA KAY, COADDVA
 YDUNG, JACK G. MEMPHIS
 YUKON, GOKDON, MEMPHIS
 YUKON, GOKDON, MEMPHIS
 ZANGNE, MICHAEL I. MEMRHIS
 ZANGNE, MICHAEL I. MEMRHIS
 * ZUSSMAN, BERNAPO M. NEMRHIS

MONROE COUNTY MEDICAL SOCIETY

MONROE COUNTY MEDICAL SOCIETY
ALLEN. JAMES LESTER. SHEETHATER
BARNES. JAMES HAKDIN. SHEETHATER
EVANS. THOMAS S. SHEETHATER
CETTINGER. JOSHUA S. MADISONVILLE
HAYSEY, MILLIAM L. MADISONVILLE
HAYSEY, ROBT DAIL. CLEVELANO
HYMAN JR. OKKEN MILLIAMS. SHEETHATER
LEVIN. BARBAKA ANN. MADISONVILLE
LDHRY. FRANK H. MADISONVILLE
LDHRY. TELEOWO A. SHEETHATER
MCGUIRE. HORAGE MUHLER. MADISONVILLE
NESS. JAMES M. TELLICO RLAINS
VILLANEUVA. RAMON. SHEETHATER
MIGGINS. GEORGE E. MADISONVILLE

MONTGOMERY COUNTY MEDICAL SOCIETY

- MONTGOMERY COUNTY MEDICAL SOCIETY

 ALLISON-BRYAN, BARRAKA A, CLARKSVILLE
 ATKINSON, FORARD A, CLARKSVILLE
 & AUSTIN III, KICHARO B, CLARKSVILLE
 BEARLEY, WILLIAM CODPEK, CLARKSVILLE
 BEARLEY, WILLIAM CODPEK, CLARKSVILLE
 BEALENGER, JAMES F, CLARKSVILLE
 BOYD, ALTON REUTHER, CLARKSVILLE
 BOYD, ALTON REUTHER, CLARKSVILLE
 BREHER, CAMEDS B, CLARKSVILLE
 BUSHE, JOEL GREGORY, CLARKSVILLE
 BUSH, JOEL GREGORY, CLARKSVILLE
 CARRIGAN, VENNON M, CLARKSVILLE
 CUNNINGHAM JR, THOS N, CLARKSVILLE
 DOANE JR, SAMEN, CLARKSVILLE
 DOANE JR, SAMEN, CLARKSVILLE
 DOANE JR, SAMEN, CLARKSVILLE
 CONTINGHAM JR, THOS N, CLARKSVILLE
 CONTINGHAM JR, THOS N, CLARKSVILLE
 CHARIOLS, JAMET L, CLARKSVILLE
 DOANE JR, SAMEN, CLARKSVILLE
 GOTY JP, ROBERT D, CHAPANSBURO
 OURRETT JR, DAASJN M, CLARKSVILLE
 GANT, CHAPLITTE E, CLARKSVILLE
 HALL, MICHAEL STANLEY, CLAPKSVILLE
 HALL, MICHAEL STANLEY, CLAPKSVILLE
 HAMRION, JAMES FJMARD, CLARKSVILLE
 HAMRION, JAMES FJMARD, CLARKSVILLE
 HAMRINS, LINDA L, CLARKSVILLE
 HAMRINS, LINDA L, CLARKSVILLE
 HAMRINS, LINDA L, CLARKSVILLE
 HOSON, ROBERT M, CLARKSVILLE
 HOSON, ROBERT M, CLARKSVILLE
 HUDSON, ROBERT M, CLARKSVILLE
 GIGHART, RYAMI CONSTANTINE, CLARKSVILLE
 KENNEDY, HOMARD M, CLARKSVILLE
 KENNEDY, HOMARD M, CLARKSVILLE
 KENNEDY, HOMARD M, CLARKSVILLE
- IGGFHART, RRYAN T, CLARKSVILLE
 JORDAN, EDAIN CONSTANTINE, CLARKSVILLE
 KENNEDY, HOWARD A, CLARKSVILLE
 KOEHN JR, ROBT C, CLARKSVILLE
 KURITA, GERGE I, CLARKSVILLE
 LARKINS, GARY L, CLARKSVILLE
 LEDRETTER, BUFDYD A, CLARKSVILLE
 LEF, ROBT HENRY, DOVER
 LEMOINE, FRITZ F, CLARKSVILLE
 LETT, JAMES C, ERIN
 LIMAAUGH JR, JAMES H, CLARKSVILLE
 LOME JR, KEGINALU S, CLARKSVILLE
 LUTON, DAKLUS SAML, CLARKSVILLE
 LYLE, WM GREEN, CLARKSVILLE
 MARTIN, DANIEL EKNEST, ERIN

MCCAMRBELL, FRANK G. CLARKSVILLE
MILAM, JAMES ROBT, CLARKSVILLE
MILES JR. JOS HM. CLARKSVILLE
MITCHUM. ALBERT JACKSUN, HENDERSUNVILLE
MONTGOMERY. TUNY JOHNSON, CLARKSVILLE
PEACHER, TEPRY GENE, CLAMKSVILLE
REDIGU, MILLIAM J. CLAPKSVILLE
REDIGU, MILLIAM J. CLAPKSVILLE
RERALES, ANGEL U, DICKSON
PETERSON, KEITH D. CLARKSVILLE
RUFTER, DUUGLAS BAIGHT, CLAKKSVILLE
RICH, OUGLAS BAIGHT, CLAKKSVILLE
RICHARDSON, DONALD RAY, CLAKKSVILLE
SILFU, BITA ANNE, CLARKSVILLE
SILFU, BITA ANNE, CLARKSVILLE
SILFUY, GARY LYNN, CLARKSVILLE
STILFUY, GARY LYNN, CLARKSVILLE
STITUS III, MILLIAM P. CLARKSVILLE
VANN, HARULD FRANCIS, CLARKSVILLE
VANN, HARULD FRANCIS, CLARKSVILLE
WALKER, JR. CLAKKSVILLE
MALKER, JR. CLAKKSVILLE
MALKER, JR. CLAKKSVILLE
MILSON, FRANK, CLARKSVILLE
MILSON, FRANK, CLARKSVILLE
MILSON, FRANK, CLARKSVILLE
WALL JR. AM H. CLARKSVILLE
MILSON, FRANK, CLARKSVILLE
MILSON, FRANK, CLARKSVILLE
WALLT JR. JUNN FAY, CLARKSVILLE
WASHVILLE ACADEMY OF MEDICINE/

NASHVILLE ACADEMY OF MEDICINE/

- NASHVILLE ACADEMY OF MEDICINE/

 DAVIDSON COUNTY MEDICAL SOCIETY

 ABISELLAN, EDUARDU F, NASHVILLE
 ABISELLAN, EDRGINA A, NASHVILLE
 ACOSTA, ESTRELLA P, MADISON
 ACOSTA, ESTRELLA P, MADISON
 ACOSTA, ESTRELLA P, MADISON
 ACOSTA, RAULD C, MADISON
 ACREE, MAURICE MASON, NASHVILLE
 ADAMS JR, ROBT MALKER, NASHVILLE
 ADKINS, CRAMFUAD, DUCK KEY, FL
 ADDLESTONE, KONALD B, NASHVILLE
 ADKINS, ROBT BENTON, NASHVILLE
 ADKINS, THOMAS G, NASHVILLE
 ADKINS, THOMAS G, NASHVILLE
 ACANTARA, ILDEFONSO A, NASHVILLE
 ALEXANDER, AUL CHAYTUN, NASHVILLE
 ALEXANDER, RAUL CHAYTUN, NASHVILLE
 ALEXANDER, RAUL CHAYTUN, NASHVILLE
 ALFERY, DAVID D, NASHVILLE
 ALFERY, TORYOLD D, NASHVILLE
 ALLEN, TERRY REYNDLOS, NASHVILLE
 ALLEN, VAUSHAN ARTHUR, NASHVILLE
 ALLEN, VAUSHAN ARTHUR, NASHVILLE
 ALLEN, VAUSHAN ARTHUR, NASHVILLE
 ALLEN, VAUSHAN ARTHUR, NASHVILLE
 ALLEN, PRN J J, NASHVILLE
 ALLENERN JR, DØUGLAS C, NASHVILLE
 ALLENERN, PHILLIPS O, NASHVILLE
 ALTENBERN, PHILLIPS O, NASHVILLE
 ANDERSON, JR, DAMES S, NASHVILLE
 ANDERSON JR, JAMES S, NASHVILLE
 ANDERSON JR, JAMES S, NASHVILLE
 ANDERSON, BOWARD SUGFNE, NASHVILLE
 ANDERSON, EDHIN B, NASHVILLE
 ANDERSON, EDHIN B, NASHVILLE
 ANDERSON, EDHIN B, NASHVILLE
 ANDERSON, HR, NASHVILLE

- AVERY, JAMES KELLET, EKENIPUDU BACKUS, ELIZAGETH *AUKEFN, NASHVILLE BAER, MAKKY, NASHVILLE BAER, MAKRY, NASHVILLE BALDHIN, JAMES *AKVIN, ASHLAND CITY BALFDUR, H HRIAN, NASHVILLE BALLARO, SIDNEY #, FRANKLIN BALLINGER, JEANNE F, NASHVILLE BAN, THDMAS A, NASHVILLE BANS, CHARLES G, JASPER, AL BARKSOALE, EDMAPD H, NASHVILLE BANKS, CHARLES G, JASPER, AL BARKSOALE, EDMAPD H, NASHVILLE BARNES JR, MAURICE C, NASHVILLE BARNETI, POUL HAROLO, NASHVILLE BARNETI, POUL HAROLO, NASHVILLE BARNETI, ROBI BUKTON, NASHVILLE BARNETI, ROBI BUKTON, NASHVILLE BASS, ALLAN DELMAGF, NASHVILLE BATSON, JACK MILLER, NASHVILLE BATSON, JACK MILLER, NASHVILLE BATSON, JACK MILLER, NASHVILLE BATSON, JACK MILLER, NASHVILLE BATSON, RANDOURRH, TROY, AL BAYER, D SCOTT, NASHVILLE

```
BEAZLEY, LUTHUR, NASHVILLE
BECK, CHAS BERNAYD, MADISON
BEELEK, GICHARD T, NASHVILLE
BELEK, RICHARD T, NASHVILLE
BELEK, RICHARD T, NASHVILLE
BELLEK, RICHARD T, NASHVILLE
BELLEK, RICHARD T, NASHVILLE
BELLEK, RICHARD T, NASHVILLE
BENDER JK, HARVEY, NASHVILLE
BENDER JK, HARVEY, NASHVILLE
BENDER JK, HARVEY, NASHVILLE
BENNING, THOMAS R, NASHVILLE
BENNING, THOMAS R, NASHVILLE
BERNARD, KEITIN GERRAPASYVILLE
BERRARD KEITIN GERRAPASYVILLE
BERRARD KEITIN GERRAPASYVILLE
BERRARD KEITIN GERRAPASYVILLE
BERRARD CHARLES M, NASHVILLE
BERRARD JTON, NASHVILLE
BINGE, JMM M, NASHVILLE
BINGE, JM M, ELLIA JOSFPH M, NASHVILLE
BISHOP, MICHAEL MASHVILLE
BASTONISH JP, JOS MASHVILLE
BLOONER SIAMLEY JACOB, HERRITAGE
BOONER SIAMLEY JACOB, HERRITAGE
BOHNAY JP, JAMES J, NASHVILLE
BANKE, JM J, JACOB, MASHVILLE
BONGOY JP, MASHVILLE
BRAKER, MICHAEL MASHVILLE
BRAKER, MICHAEL MASHVILLE
BRAKER, MARVER, MASHVILLE
BRAKER, MARVER, MASHVILLE
BRAKER, JOHN CONNINCHAN, NASHVILLE
BROWN JP, JELLIA MASHVILLE
BRANKER, JOHN CONN
```

```
CAPPENTER JR, GED KENYON, NASHVILLE
CASTEL, SOCAM MILLIS, NASHVILLE
CASTELNUOVO-TEGESCO. P., NASHVILLE
CASSELL, NOMAMA M. NASHVILLE
CATELNUOVO-TEGESCO. P., NASHVILLE
CATE, POMALO C., NASHVILLE
CATE, POMALO C., NASHVILLE
CATE, POMALO C., NASHVILLE
CATO, JAMES ROBERT, NASHVILLE
CAYCE, LEE F. NASHVILLE
CAYCE, LEE F. NASHVILLE
CAYCE, LEE F. NASHVILLE
CHALFANT, POBT L. NASHVILLE
CHALFANT, POBT L. NASHVILLE
CHAMESEYS, JILL F. NASHVILLE
CHAMESEYS, JILL F. NASHVILLE
CHANDANSASAPPA, KOOIHALLI P. MAOISON
CHAPMAN, JOHN EOMON, NASHVILLE
CHAIRM, MALTER MINN, NASHVILLE
CHAIRM, RACHAM, NASHVILLE
CHIAKANNAIAH, SAJJAN G. GODDLETSVILLE
CHIAKANNAIAH, SAJJAN G. GODDLETSVILLE
CHIAKANNAIAH, SAJJAN G. GODDLETSVILLE
CHISCH, NASHVILLE
CHISTIE, ANGS, NASHVILLE
CLASSEN, JEANVINE ARCHER, MAOISON
CLASSEN, JEANVINE COOR, NASHVILLE
COORE, LOUILS ARRO, NASHVILLE
COORE, LOUILS ARRO, NASHVILLE
COORE, JEIL JOHN M. NASHVILLE
COORE, JEIL JOHN M. NASHVILLE
COORE, GEOGRAPS, NASHVILLE
COORE, JEIL JOHN M. NASHVILLE
COORE, JEIL JOHN M. NASHVILLE
COORE, JEIL JOHN M. NASHVILLE
COOPEN, ORDER J. NASHVILLE
COOPEN, NASHVILLE
```

```
OUNCAN, THOMAS C, NASHVILLE
OUNDON, MARY CATHERINE, MADISON
OUNKERLEY JR, ROBT C, NASHVILLE
OUNN, GED DEWEY, NASHVILLE
OUTTON, MM PATTERSON, NASHVILLE
OYER, DAVIO N, NASHVILLE
OYER, ERIC L, NASHVILLE
ECKSTEIN, CHARLES 4, NASHVILLE
EOGAR SR, ANDREM S, NASHVILLE
EDMUNDS, ANNE VENABLE, ATLANTA, GA
EOWAROS, JR, WILLIAM H, MASHVILLE
EOWAROS, ODRAN OEVDN, NASHVILLE
EOWAROS, JOE MICHAEL, NASHVILLE
EOWAROS, ROBT HARVEY, NASHVILLE
EOWAROS, ROBT HARVEY, NASHVILLE
EOWAROS, ROBT HARVEY, NASHVILLE
EOMAROS, JOEAN OEVON, NASHVILLE
EOMAROS, JOE MICHAEL, NASHVILLE
EOMAROS, ROBT HARVEY, NASHVILLE
ECMARIS, AM H, NASHVILLE
ELAM III, ROY OSCAR, NASHVILLE
ELAM, LLOYO CHAS, NASHVILLE
ELLIOTT, PHILIP C, RENTWOOD
ELLIS, OAKREL L, NASHVILLE
ELLIS, OAKREL L, NASHVILLE
ELLIS, MICHAEL C, MADISON
ELROD, BURTON F, NASHVILLE
ELLIS, MICHAEL C, MADISON
ELROD, BURTON F, NASHVILLE
ESCOD, CLIFTON W, NASHVILLE
EFSTEIN, SHELOON M, NASHVILLE
ESTEN, SHELOON M, NASHVILLE
ESTEN, SHELOON M, NASHVILLE
ESKINO, JEFFENY BEIN, NASHVILLE
ESKINO, JEFFEY BEIN, NASHVILLE
ESKINO, JEFFEY BEIN, NASHVILLE
ESKINO, JEFFEY BEIN, NASHVILLE
ESKINO, STEVEN J, NASHVILLE
EFKER, ROBERT L, NASHVILLE
EYLER, DON L, SALEM, AL
EZELL, ROY CLAY, NASHVILLE
FARRER, ROST BRANCH, NASHVILLE
FARRER, HD MAS CROWELL, NASHVILLE
FARRER, HD MAS CROWELL, NASHVILLE
FARRER, HT MAYLOR, NASHVILLE
FARRER, HT MAYLOR, NASHVILLE
FARRIS, WILLIAM B, BRADENTON, FL
FAULKNER, LEE A, NASHVILLE
FAULKNER, LEE A, NASHVILLE
FERUIKNER, LEE A, NASHVILLE
FELTS, PHILIP W, NASHVILLE
FELTS, PHILIP W, NASHVILLE
FELTS, STEPHEN KAREY, HERNITAGE
FEMAN, STEPHEN S, NASHVILLE
FELTS, STEPHEN KAREY, HERNITAGE
FERMICHEL, GEKALO MERVIN, NASHVILLE
FELTS, STEPHEN KAREY, HERNITAGE
FERSEY, RAY U, NASHVILLE
FIELOS, JAMES P, NASHVILLE
FIELOS, JOHN PERSHING, NASHVILLE
FEMAN, STEPHEN KAREY, MERMITAGE
FEMANN STEPHEN S, NASHVILLE
FENICHEL, GEXALO MERVIN, NASHVILLE
FERGUSON, HAROLO AUSTIN, NASHVILLE
FIELOS, JAMES P, NASHVILLE
FIELOS, JOHN PERSHING, NASHVILLE
FINCH, WILLIAM TYREE, NASHVILLE
FINKE, FREDERICK LEROY, NASHVILLE
FINKE, ROBT MAKK, NASHVILLE
FISHBEIN, JOS H, NASHVILLE
FISHBEIN, JAMES H, NASHVILLE
FLEISCHER, JAHES H, NASHVILLE
FLEMING JR, JAMES H, NASHVILLE
FORSTER, JOHN PAYMONO, NASHVILLE
FORSTER, JOHN PAYMONO, NASHVILLE
FOSTER, HENRY WENDELL, NASHVILLE
FOSTER, HENRY WENDELL, NASHVILLE
FOSTER, NELSUN RAY, FRANKLIN
FOMINKLE, EUGENE WESLEY, NASHVILLE
FRANCE, RICHARO, NASHVILLE
FRANCIS, ROBT STANLEY, NASHVILLE
FRANCIS, ROBT STANLEY, NASHVILLE
FRANCIS, ROBT STANLEY, NASHVILLE
FRANCIS, ROBT STANLEY, NASHVILLE
FREGERIKSEN, KAND TERRELL, NASHVILLE
FREGERIKSEN, KAND TERRELL, NASHVILLE
FREGERIKSEN, KAND TERRELL, NASHVILLE
FREGERIKSEN, KAND TERRELL, NASHVILLE
FREST JP, JOHN C. NASHVILLE
FRIST JP, JOHN C. NASHVILLE
FRIST, ROBT ARMISTEAD, NASHVILLE
FRIST, ROBT ARMISTEAD, NASHVILLE
FRIST, THOS F, NASHVILLE
FRIST, THOS F, NASHVILLE
FRIST, ROBT ARMISTEAD, NASHVILLE
GARNER, JAMES COLLIE, NASHVILLE
GARONER, JAMES COLLIE, NASHVILLE
GARONER, JARES COLLIE, NASHVILLE
GARONER, JARES COLLIE, NASHVILLE
GARONER, JARES COLLIE, NASHVILLE
GARONICH, MICHAEL C, NASHVILLE
GARONICH, MICHAEL C, NASHVILLE
GARONICH, MICHAEL C, NASHVILLE
GASTON JR, ROBBERT B, NASHVILLE
GARONICH, MICHAEL C, NASHVILLE
GENOTH, HAROLO LEFFEL, NASHVILLE
GENTY, HAROLO LEFFEL, NASHVILLE
GEN
```

DECEMBER, 1985 795

- GILL, CHAS MC CLELLAND, NASHVILLE
 GILMAM, DOAYLO MARK, NASHVILLE
 GILMAM, TONALD KY NASHVILLE
 GILMAM, TINOTHY G, NASHVILLE
 GLASSCOCK, MICHAEL E, NASHVILLE
 GLASSCOCK, FRANK B, NASHVILLE
 GLASSCOCK, FRANK B, NASHVILLE
 GLASSCOCK, FRANK B, NASHVILLE
 GLASSCOCK, FRANK B, NASHVILLE
 GLASSCOCK, MICHAEL E, NASHVILLE
 GLASSCOCK, MICHAEL E, NASHVILLE
 GLOWER, JOHN P, NASHVILLE
 GLOWER, PRANCIS M, NASHVILLE
 GLOWEZ, PAUL CHAS, NASHVILLE
 GOMEZ, PAUL CHAS, NASHVILLE
 GOMEZ, PAUL CHAS, NASHVILLE
 GORE, JOHNY ELMO, ANTIOCH
 GORSTEIN, FREO, NASHVILLE
 GRAMAM RR, LOUIS S, NASHVILLE
 GRAMAM RR, LOUIS S, NASHVILLE
 GRAMAM RR, LOUIS S, NASHVILLE
 GRAMAM, THOMAS P, NASHVILLE
 GRAMAM, THOMAS P, NASHVILLE
 GRAMAM, THOMAS P, NASHVILLE
 GRAMAM, THOMAS P, NASHVILLE
 GRAV, GEORGE F, NASHVILLE
 GRAV, GEORGE F, NASHVILLE
 GRAV, GEORGE F, NASHVILLE
 GREEN, JURN OM MILITAM, NASHVILLE
 GREEN, JAMES LOUNALD, NASHVILLE
 GREEN, HARRY LEE, NASHVILLE
 GREEGORY, MILLIAM MUSHVILLE
 GREEGORY, MILLIAM MUSHVILLE
 GREEGORY, MILLIAM MUSHVILLE
 GREEGORY, MILLIAM, NASHVILLE
 GREGORY, MINSTOM H, NASHVILLE
 GROUN, RICHARD H, NASHVILLE
 GROUN, RICHARD H, NASHVILLE
 GROUN, RICHARD H, NASHVILLE
 HABEL, MANGRAM, MISSON
 HANSHALLE
 HARLEL, HUGH JAN, NASHVILLE
 HERNER, JARE

- HIGHTOMER, UANL RUSSELL, NASHVILLE
 HILL, MARKEN THOS, MENOERSONVILLE
 HILL, MARKEN THOS, MENOERSONVILLE
 HILLARO, REVING RINGO, NASHVILLE
 HILLS, FOWARD WIDDOPH, NASHVILLE
 HILLS, FOWARD WIDDOPH, NASHVILLE
 HIRS, FOWARD WIDDOPH, NASHVILLE
 HIRS, HERS, MASHVILLE
 HIRSCH, MARTIN 9, NASHVILLE
 HOLOUB HII, GEORGE M, NASHVILLE
 HOLOUB HII, GEORGE M, NASHVILLE
 HOLOUB HII, GEORGE M, NASHVILLE
 HOLLENGER, MARC HALF, NASHVILLE
 HOLLENGER, MARC HALF, NASHVILLE
 HOLLENGER, MARC HALF, NASHVILLE
 HOLLIDAY, HUGH ODUGLES, NASHVILLE
 HOLLENGER, MARC HALF, NASHVILLE
 HOLLENGER, MARC HARC, NASHVILLE
 HOLLENGER, MARC HALF, NASHVILLE
 HOLLENGER, MARC HARC, NASHVILLE
 HOLLENGER, MARC HARCO, NASHVILLE
 HOUSELY JR, GEORGE A, NASHVILLE
 HOUSTON, SALLY H, NASHVILLE
 HOUSELY JR, GEORGE A, NASHVILLE
 HOWELL JR, EVERETTE IAL, NASHVILLE
 HOWELL JR, EVERT HARCO, NASHVILLE
 HOWALD, SEEPH N, NASHVILLE
 HOWALD, JR, LARCH, NASHVILLE
 JACKSON, ROBERT HARCO, NASHVILLE
 JOHNSON, JASK HARCO, NASHVILLE
 JOHNSON, JASK HARCO, NASHVILLE
 JOHNSON, JASK HARCO, NASHVILLE
 JOHNSON, JAYL MA, NASHVILLE
 KAPAN, STURM HARCO

- KILLMAN, KATHRYN R. NASHVILLE
 KILROY, ANTHONY MALOO, NASHVILLE
 KIMBRELL JR, FRED TAYLOR, OONELSON
 KINCAIO, ROBERT SAMUEL, FRANKLIN
 KING JR, LLUYD E. NASHVILLE
 KINNAKO, JUHN PARKES, NASHVILLE
 KIRBY, LOWRY UALF, NASHVILLE
 KIRCHBERG JR, ROY WM, NASHVILLE
 KIRCHMER JR, FREDERICK K, NASHVILLE
 KIRCHMER, SANURA LYNNE G, NASHVILLE
 KIRSHNER, HOMARD S, NASHVILLE

- KIRYA, CHRISTOPHER, MASHVILLE
 KIONTIC, JR, RAIPH R, MASHVILLE
 KOCHIG, LEONARO J, MASHVILLE
 KOONTG, LEONARO J, MASHVILLE
 KOONTG, PAUL C, MASHVILLE
 KOUNTZ, PAUL C, MASHVILLE
 KOUNTZ, PAUL C, MASHVILLE
 KOUNTAY, KONALO FACDENIG, MASHVILLE
 KOURARY, KONALO FACDENIG, MASHVILLE
 KOULKARNI, MAGANY MASHVILLE
 KOULKARNI, MAGANY MASHVILLE
 LAVOIR, MICHEL ELIAS, MASHVILLE
 LAVOIR, MICHEL ELIAS, MASHVILLE
 LAGRINE, ROBERT P, MASHVILLE
 LAGRINE, ROBERT P, MASHVILLE
 LAMPA, JOHN MM, MASHVILLE
 LAMPA, JOHN MM, MASHVILLE
 LAMPA, JOHN MM, MASHVILLE
 LAMPA, JOHN MM, MASHVILLE
 LAMPA, JULIE K, MASHVILLE
 LAMPKIN IV, S L, MASHVILLE
 LAMOHIN, LAMKENCE PAUL, MASHVILLE
 LAMOHIN, LAMKENCE PAUL, MASHVILLE
 LAMOHIN, LAMKENCE PAUL, MASHVILLE
 LAMPIN, PAUL A, MASHVILLE
 LECONES, PATRICK J, FRAMKLIN
 LEET MICH A, USANVILLE
 LECONES, PATRICK J, FRAMKLIN
 LEET MICH A, USANVILLE
 LEET MALOUM R, MASHVILLE
 LENGE, JOHN MARTIN, MASHVILLE
 LENGE, JOHN MARTIN, MASHVILLE
 LENGE, JOHN MARTIN, MASHVILLE
 LENGE, JOHN MARTIN, MASHVILLE
 LINN, JOHN LOUIS, MASHVILLE
 LINN,

MEACHAM, AM FELAND, MASHVILLE
MEADORS, MICHAEL H, MASHVILLE
MEADORS, MICHAEL H, MASHVILLE
MENDORS, MICHAEL H, MASHVILLE
MENTIT II, CUCLEN R, MASHVILLE
METTS III, VEAGIL L, MAGISON
MEYER JR, ALVIN HERRY, ODMELSON
MICHAEL, PAUL R, MASHVILLE
MICHER JR, JAMES ULNEY, MADISON
MICHAEL, PAUL R, MASHVILLE
MICHER JR, JAMES ULNEY, MADISON
MILLER, JUHN M, MASHVILLE
MILLER, JUHN M, MASHVILLE
MILLER, JUHN M, MASHVILLE
MILLER, HICHAEL E, MASHVILLE
MILLER, MICHAEL E, MASHVILLE
MILLER, MICHAEL E, MASHVILLE
MILLER, MICHAEL E, MASHVILLE
MILLER, HOUNGEL PETER, MASHVILLE
MILLER, HOUNGEL PETER, MASHVILLE
MINTON, LEE RUY, MASHVILLE
MINTON, LEE RUY, MASHVILLE
MINTON, LEE RUY, MASHVILLE
MITCHELL, CARL FORARD, MASHVILLE
MOREY, MASHVILLE
MONEY, MASHVILLE
MONE

PATTERSON, JOHN G. NASHVILLE
PERSON, SERVEY P. NASHVILLE
PERSON, AND SERVEY P. NASHVILLE
PERSON, AND SERVEY P. NASHVILLE
PERSON, AND SERVEY P. NASHVILLE
PERSON, JOHN S. SERVEY P. NASHVILLE
PERSON, JUNN, AND SEVEN S. SERVEY S. SE

RYU, CHI YOL, MADISON
SADLER, RUST WEIL, NASHVILLE
SALCEOR, PEPITO YAPIT, MADISON
SALYER, HOWARD LEE, NASHVILLE
SANDERS, HANDERS LII, OAN SUMNER, NASHVILLE
SANDERS III, OAN SUMNER, NASHVILLE
SANDERS, HARVEY STAMFORD, NASHVILLE
SANDERS, HARVEY STAMFORD, NASHVILLE
SANDERS, HICHARD JAMES, NASHVILLE
SANDERS, RICHARD JAMES, NASHVILLE
SANDERS, RICHARD JAMES, NASHVILLE
SANDERS, RICHARD JAMES, NASHVILLE
SANDERS, RICHARD JAMES, NASHVILLE
SANDERS, HORENTER, NASHVILLE
SANDERS, HORENTER, NASHVILLE
SANDERS, SALERS, JULIA EDUARDS, NASHVILLE
SANDERS, JULIA EDUARDS, NASHVILLE
SATERS, JULIA EDUARDS, NASHVILLE
SAYERS, JULIA EDUARDS, NASHVILLE
SCHAETS, JULIA EDUARDS, NASHVILLE
SCHAETS, JULIA EDUARDS, NASHVILLE
SCHAETS, JULIA EDUARDS, NASHVILLE
SCHEIBERT, CHAS DAVIO, NASHVILLE
SCHEIBERT, CHAS DAVIO, NASHVILLE
SCHULLIG, STEPHEN, NASHVILLE
SCHULLIG, STEPHEN, NASHVILLE
SCHULL, LAWRENCE G, NASHVILLE
SCHULTHEISS, DAVIO EARL, NASHVILLE
SCHULT, JOHN STANLEY, NASHVILLE
SCHULT, JOHN STANLEY, NASHVILLE
SCHEICH, AND SIDSON B, NASHVILLE
SCHULT, HICHAEL BOYO, NASHVILLE
SCHULL JR, ADDISON B, NASHVILLE
SHARN, CROSERT BRUCE, NASHVILLE
SHACKLEFOAD, ELBERT C, HENDERSONVILLE
SHACK, PASK JR. SHARLES DAVID SANDER LE
SHARL, NESON BOAMRD, NASHVILLE
SHACK, PASK JR. SHARLES
SHANDS III, COURTNEY, NASHVILLE
SHACKLEFOAD, ELBERT C, HENDERSONVILLE
SHACKLEFOAD, ELBERT C, HENDERSONVILLE
SHACKLEFOAD, ELBERT C, HENDERSONVILLE
SHACKLEFOAD, ELBERT C, NASHVILLE
SHELD, ARROSS HANDERSON, NASHVILLE
SHELD, HARRISON H, NASHVILLE
SHELD, HARRISON H, NASHVILLE
SHELD, HARRISON H, NASHVILLE
SHELD, RABBAR B, NASHVILLE
SHIN, HARRISON H, NASHVILLE
SHIN, HARRISON H, NASHVILLE
SHITH, HARVID CHARDER, NASHVILLE
SHITH, HARVID CHARD, NASHVILL

STEVENS JR. FRANK. W. NASHVILLE STEVENS, BROOKE, NASHVILLE STEVENS. FRANK WILSON, NASHVILLE STEWART III, RADFORD C. NASHVILLE STEWART, LEE WM. NASHVILLE STEWART, RICHARD BAIRD, NASHVILLE

797 DECEMBER, 1985

- STOCKARD JK, CHARLES G, NASHVILLE
 STOLZ, MARGARET H, ANTIOCH
 STONE, WILLIAM JUHN, NASHVILLE
 STONE, WILLIAM JUHN, NASHVILLE
 STONE, WH SHANNON, NASHVILLE
 STONEY, WH SHANNON, NASHVILLE
 STRATTON, CHARLES H, NASHVILLE
 STRATTON, CHARLES H, NASHVILLE
 STRATTON, CHARLES H, NASHVILLE
 STROOE, MILBORN D, NASHVILLE
 STROOE, MILBORN D, NASHVILLE
 STROOE, MILBORN D, NASHVILLE
 STUMB, PAUL RUST, NASHVILLE
 STUMB, PAUL RUST, NASHVILLE
 STUMB, PAUL RUST, NASHVILLE
 SUMPTER JR, HM DAVID, NASHVILLE
 SUMPTER JR, HM DAVID, NASHVILLE
 SUMPTER JR, HM DAVID, NASHVILLE
 SUNGA-GUEVARA, MARIETTA, NASHVILLE
 SUNGELL, HAKAN MILHELM, NASHVILLE
 SUNGA-GUEVARA, MARIETTA, NASHVILLE
 SUNGA-GUEVARA, MARIETTA, NASHVILLE
 SUNGA-GUEVARA, MARIETTA, NASHVILLE
 SUTTON, JERRY SEABORN, NASHVILLE
 SUTTON, JERRY SEABORN, MASHVILLE
 SWINDLE, HARK, NASHVILLE
 SWINDLE, HARK, NASHVILLE
 SWINDLE, HARK, NASHVILLE
 SWINGLE, JR, RUGER LYNN, NASHVILLE
 SWINGLE, JR, RUGER LYNN, NASHVILLE
 SYALAY, ELIZABETH A, NASHVILLE
 TABER, DAVID JUMN, NASHVILLE
 TABER, DAVID JUMN, NASHVILLE
 TANER, JOHN M, NASHVILLE
 TARCHEST, NASHVILLE
 THOMAS, CLARENCE S, NASHVILLE
 THOMAS, CLARENCE S, NASHVILLE
 THOMAS, THE STORE SAME SHAPE, NASHVILLE
 THOMAS, NELISSA KAY, NASHVILLE
 THOMAS, THE SAME SAME SHAPE
 THOMAS, THE SAME SAME SHAPE
 THOMAS, THE SAME SHAPE
 THE SAME S

- MEST, ROBERT R. NASHVILLE
 MEST, SCOTT W. NASHVILLE
 MESTER, ARVILLE VANCE. NASHVILLE
 WHEELER, ARVILLE VANCE. NASHVILLE
 WHETSELL JR. WILLIAM O. NASHVILLE
 WHITE, STEVE A. MADISON
 WHITFIELO JR. THOMAS C. NASHVILLE
 WHITFIELO, JOE T. FRANKIN
 WHITMORTH, THOS CLAYTON, NASHVILLE
 WHIKINSON, ERLE EMING. NASHVILLE
 WILKINSON, ERLE EMING. NASHVILLE
 WILKIAMS, MELBOUKNE A. NASHVILLE
 WILLIAMS, MELBOUKNE A. NASHVILLE
 WILLIAMS, MELBOUKNE A. NASHVILLE
 WILLIAMS, MELBOUKNE A. NASHVILLE
 WILLISON, JAMES PHILLIP, NASHVILLE
 WILLISON, JAMES PHILLIP, NASHVILLE
 WILLISON, JAMES PHILLIP, NASHVILLE
 WINTFR. EUGEN J. NASHVILLE
 WINTFR. EUGEN J. NASHVILLE
 WINTFR. EUGEN J. NASHVILLE
 WITHERSPOON, JOHN D. NASHVILLE
 WITHERSPOON, JOHN D. NASHVILLE
 WITHERSPOON, JOHN START, NASHVILLE
 WITHOUGE, NORMAN EVERFIT, NASHVILLE
 WITHOUGE, NASHVILLE
 WOOD, SALANCE, KANKIN
 WONG, SONG W, NASHVILLE
 WOOD, ALASTAIR J., NASHVILLE
 WOOD, ALASTAIR J., NASHVILLE
 WOOD, ALASTAIR J., NASHVILLE
 WOOD, JOHN KUBT, NASHVILLE
 WOOD, JOHN KUBT, NASHVILLE
 WOODEN, JOHN KUBT, NASHVILLE
 WOOSLEY JK, RAYUNO L. NASHVILLE
 WOOKMAN, CENNIS CLIFFORD, NASHVILLE
 WOOKMAN, CENNIS CLIFFORD, NASHVILLE
 WOOKMAN, CENNIS CLIFFORD, NASHVILLE
 WORKMAN, KOBERT JAY, NASHVILLE
 WORKMAN, KOBERT JAY, NASHVILLE
 WARTT, JOHN L. NASHVILLE
 WARTT, JOHN KELLY, NASHVILLE
 WARTT, JOHN

NORTHWEST TENNESSEE ACADEMY OF MEDICINE

NORTHWEST TENNESSEE ACADEMY

OF MEDICINE

AXINS JP, CHAS WESLEY, UNION CITY
ALGEE JR, YANT W. DYFRSBURG
ANDERSON, CHARLES E. DYERSBURG
BAIFO, JESSE P. DYFRSBURG
BAIFO, JESSE P. DYFRSBURG
BARKS, THUS V. DYFRSBURG
BEALE, HOSART H. MARTIN
BLANTON III, MARVIN A. UNION CITY
BONDS, JAMES A. DYERSBURG
RAORERRY, SAM, UNION CITY
RUTLER JR, APDEN JONFS, KIFLEY
BUTLER, HAROLU DEF, UNION CITY
CAMPRON, AUBT LYNN, UNION CITY
CAMPRON, AUBT LYNN, UNION CITY
CAMPROL, MARTIN
CLENDRIN JR, MARTIN
CLENDRIN JR, MARTIN
CLENDRIN JR, MARTIN
CLENDRIN JR, MARTIN
EASON, MILLIAM, MARTIN
FAN, SIK MAN, MEMPHIS
FREEMAN, UOROUN, TYEKSBURG
GARY, OAN CARMACK, UNION CITY
GREEN JR, DOUGLAS B. DYERSBURG
HARRINGTON, MUST LEE, DYERSBURG
HARRINGTON, MUST LEE, DYERSBURG
HILL, CHESLEY HESTER, TROY
HINDS, MICHAEL, MARTIN
HUNT, JOE, MIPCHY
INCLAN, AUMELIO PETEX, TROY
HINDS, MICHAEL, MARTIN
HUNT, JOE, MIPCHY
INCLAN, AUMELIO PETEX, TROY
HINDS, MICHAEL, MARTIN
HUNT, JOE, MIPCHY
INCLAN, AUMELIO PETEX, DYERSBURG
JOHNSON, ELOIETT, DYERSBURG
JOHNSON, ELOIETT, DYERSBURG
JOHNSON, ELOIETT, DYERSBURG
KINGSHORY, EDARD P., UNION CITY
KENR, SITVEN X., PIPLEY
LATHME JK, MORT G., UNION CITY
KENR, ROBT THOMPSON, DYEKSPURG
KINGSHORY, EDARD, D., UNION CITY
LAMERUCE, XDY FINCH, UNION CITY
MALDNEY, SENNETH COSCOE, DYEKSBURG
MARSIOI, PAUL, UNION CITY
MALDNEY, SENNETH COSCOE, DYEKSBURG
MANNING, J LOUIS, DYEKSBURG
MONNAN, JAMES CHALHERS, UYEPSOURG
MANNING, J LOUIS, CITY
MODRE JW, ULYN FRED, DYEKSBURG
MONNAN, JAMES CHALHERS, UYEPSOURG
MARSIOI, PAUL, UNION CITY
MODRE JW, ULYN FRED, OYERSBURG
MONNAN, JAMES CHALHERS, UYEPSOURG
MONNAN, JAMES CHALHERS, UYEPSOURG
MONNAN, JAMES CHALHERS, UYENSBURG
MONNAN, JAMES WALTER, UNION CITY
MODRE JR, ULYN FRED, OYERSBURG
MONNAN, JAMES WALTER, UNION CITY
MODRE, JAMES CHALHERS, UYERSBURG
MONNAN, JAMES WALTER, UNION CITY
PORTER, INA HURO, GPERFIELD

DOUNNALD.

RAGSDALE, JAMES HOWARD, UNION CITY
REAVES, JUHN ANDREW, DYEKSBURG
REYNOLDS, JAHES KALPH, DYERSBURG
ROBBINS, BILLY GERALD, HALLS
RYAN, "ICHAEL H. UNION CITY
SAMER, ROBERT F. UNIUN CITY
SCHLEIFER III. GROVER F. UNIUN CITY
SCHLEIFER III. GROVER F. UNIUN CITY
SHITH JA-CO KAY, MARTIN
SMITH JA-CO KAY, MARTIN
SMITH, JAVID ANDREW, MARTIN
SMITH, JAVID ANDREW, MARTIN
SMITH, JAVID SMITH, UNION CITY
STEWART JA-CHAS V. DYERSBURG
THOPSON, THOS WECCE, DYERSBURG
THOPSON, THOS WECCE, DYERSBURG
THURMOND, POSS . MARTIN
TUCKEN, MAMEN-Y, RIPLEY
VECIANA, JOSE A. MARTIN
MARNEW, LYNN ANDREW, DYERSBURG
WERR, CLAUDE KAYMOND, RIPLEY
WULFE, JAMES M. DYERSBURG
WOLFE, JOSEPH M. DYERSBURG
OVERTION COMMENT MEDICAL COMETY

OVERTON COUNTY MEDICAL SOCIETY

CLAPK, MALCOLM H. LIVINGSTON
COX. MICHAEL INGMAS. LIVINGSTON
LOOPER, FREN F. LIVINGSTON
MASON, LARRY. LIVINGSTON
NORRIS. DENTUR D. LIVINGSTON
OUAGLES JR. AILL ... LIVINGSTON
ROF. JACK MICHAEL. LIVINGSTON
SHIPLEY, JENKY LYNN. LIVINGSTON

PUTNAM COUNTY MEDICAL SOCIETY

PUTNAM COUNTY MEDICAL SOCIETY

9ARNAMO JR. VAUGNN N. COOKEVILLE
8ARNES, JAM TAYLOR. COOKEVILLE
8ARNES, JAMES L. COOKEVILLE
CHAPIN, FAEDERICK J. COUKEVILLE
CHAPIN, FAEDERICK J. COUKEVILLE
COOKE, OANTEL F. COUKEVILLE
DE BERRY, JAMES T. COOKEVILLE
DE BERRY, JAMES T. COOKEVILLE
FRANKLIN, LEDYD DOUGLAS. COOKEVILLE
FRANKLIN, LEDYD DOUGLAS. COOKEVILLE
FRANKLIN, LEDYD DOUGLAS. COOKEVILLE
GRAY, JAMES C. COOKEVILLE
FRANKLIN, LEDYD DOUGLAS. COOKEVILLE
FRANKLIN, LEDYD DOUGLAS. COOKEVILLE
FRANKLIN, LEDYD DOUGLAS. COOKEVILLE
GRAY, JAMES C. COOKEVILLE
HASSLER. LLUYD W. COOKEVILLE
HUTPHREY, W MERKITT, COOKEVILLE
JONES JR. CLARCOCE LEF. COOKEVILLE
JONES JR. CLARCOCE LEF. COOKEVILLE
LOWE, STEMART T. COOKEVILLE
LOWE, STEMART T. COOKEVILLE
LOWE, STEMART T. COOKEVILLE
LOWE, STEMART T. COOKEVILLE
LOWE, JAMES GREGORY, COOKEVILLE
LOWE, JAMES GREGORY, COOKEVILLE
PANTEK, JAMES ONLITE
SHOLEY, THURMAN, COOKEVILLE
SAMPLES, KANDALL GARY, COOKEVILLE
SAMPLES, AND SALLTAM, COOKEVILLE
TAYLOR, HAS SODORAS, COO

ROANE-ANDERSON COUNTY MEDICAL SOCIETY

MEDICAL SOCIETY

AHLER, ALBERT JULIAM, HARPIMAN
BARRY, FRECERICK JAMES, DAK WIDGE
BEARD, ALICE C ANDERSON, KINGSTON
BENETT, AILLIAM E, HAMKIMAN

* BIGFLOM, KOBT RAMSEY, OAK PIUGE
BINGHAM, TERKY M, HARVIMAN

* RISHUP, ARCHEM M, CLINTUN
BLOCK JR, CLEMENT M, CAK MIDGE
BRANTLEY, RICHARD GREEN, OAK RIDGE
BRANTLEY, RICHARD GREEN, OAK RIDGE
BRANTLEY, RICHARD GREEN, OAK RIDGE
CATON, CHARLES, DAK RIDGE
BRUTON, CHARLES, DAK RIDGE
CATON, CHARLES, DAK RIDGE
CATON, CHARLES, DAK RIDGE
CATON, CHECHOLAS, CHARLIELD
CAMABIL, ALEK GARCIA, GAK RIDGE
CANDIUN, DAVID R, DAK RIDGE
COMPTUN, DAVID R, DAK RIDGE
CUNNINGHAM, CLUSHT C, HARRIMAN
DARS, C HARRELL, PUCKHOUD
DAVILNG JN, CHAS LILETT, DAK RIDGE

**OF PERSIO, RUBT E, POPT ST LUCIE, FL
DE VEGA, ARNANDJ FEPNANDO, DAK RIDGE

- DFW. RICHARD ALLAN, UAN RIDGE
 DDTSON, RUBERT SCUTT. JAK RIUGE
 DRY, LAURENCE REVELLE, DAK RIDGE
 EVERSOLE JR, EAKL, MAK RIDGE
 GENELLA JK, FRANK H, DAK RIDGE
 GUSHITZ, FRANCIS ANDREH, DAK RIDGE
 GUSHITZ, HELEN A VONDPICK, DAK RIDGE
 GUSHITZ, HELEN A VONDPICK, DAK RIDGE
 GUSHEY, CHAS MYSUNN, DAK RIDGE
 GUSHEY, CHAS MYSUNN, DAK RIDGE
 HARDON, MIDARD H, HARPIMAN
 HARDOY, MP, JAC MIDGE
 HARDON, MIDARD H, HARPIMAN
 HARDOY, MP, JAC MIDGE
 HARDON, HUMARD H, HARPIMAN
 HENDMIX, ERNEST LEFF, DAK RIDGE
 HELLANN JK, KOMERT S, HARRIMAN
 HENDMIX, ERNEST LEFF, DAK RIDGE
 HUMARD, HUMAS H, DAK RIDGE
 HOMARD, HUMT G, UAN MIDGE
 HENLINS, THRIS ADTHUK, DAK RIDGE
 HOMARD, HUMT G, UAN MIDGE
 JONES, H STRAITD, HARRIMAN
 KAEMNICK, ERNEST ELLIUTT, DAK RIDGE
 KKISHNAN, LALITAL DAK RIDGE
 LOY, MA ALLEN, UACK RIDGE
 MASSEY, SAML JLIVER, DAK RIDGE
 MANIN, MILLIAM M, BUK RIDGE
 MANIN, MILLIAM MA MA RIDGE
 MANIN, MILLIAM MANIN MA RIDGE
 MANIN MA MANIN MANIN MA RIDGE
 MANIN MA MAN

ROBERTSON COUNTY MEDICAL SOCIETY

- ROBERTSON COUNTY MEDICAL SOCIETY

 RASSEL, JJHN BURN, SPRINGFIELD

 CRUNK, TOMMY M. SPRINGFIELD

 DUDTHITT, PAUL M. SPRINGFIELD

 ELDER, RUST H. CEDAN HILL

 GRAY, JAMES THAVIS, SPRINGFIELD

 HAYES, MARKEN G. SPRINGFIELD

 JACKSON, JOHN MC REYNULDS, SPRINGFIELD

 GUMAR, SAMBJELT SINGH, SPRINGFIELD

 O'DONNELL III, JUHN MM, SPRINGFIELD

 GUARLES, JAMES RICHAND, SPRINGFIELD

 GUARLES, JAMES RICHAND, SPRINGFIELD

 SATPATHY, PANCHAMAN, SPRINGFIELD

 STONE, MM PIPKIN, SPRINGFIELD
- SAMPAINT, PANGHANAN, SPRINGFIELD STONE, AM PIPKIN, SPRINGFIELD TURNER, JUHN BUNYAN, SPRINGFIELD MESSTER, KAYHUND HARKIS, SPRINGFIELD MILKISON, JOHN EDAIL, SPRINGFIELD DITTECTORD COUNTY CORDER DIVER

RUTHERFORD COUNTY/STONES RIVER ACADEMY OF MEDICINE

ABERNATHY, JAMES PAUL, MUREREESBORG ADAMS, CARL E. MUREREESBOPO AKIN, HARULD THUS, MURFREESBORD AL-ABDULLA, ABDUL-SAHIB M. MURFREESBORD

- *ALLEN, JAMES THOS, MURFREESBORD
 ANDREWS, SUSAN T, MURFREESBORD
 BALLEY, JUS C, MUFFREESBORD
 BEASLEY, TIMOTHY J, MURFREESBORD
 BEASLEY, TIMOTHY J, MURFREESBORD
 BEASLEY, TIMOTHY J, MURFREESBORD
 BODDENEK, JAMES L, MURFREESBORD
 BODDENEK, JAMES L, MURFREESBORD
 BODDENEK, JAMES L, MURFREESBORD
 BODDENEK, JAMES L, MURFREESBORD
 BORNAN, HILLIAM ANUKEN, MUDBURY
 BULLOCK, SALLY HILL, MURFREESBORD
 BUTLEK JR, HENRY K, MURFREESBORD
 BUTLEK JR, HENRY K, MURFREESBORD
 CASTER TII, SAM FRANK, MURFREESBORD
 CAMPBELL, JERKY NEAL, MURFREESBORD
 COUNTINGHAM, JUHN THOS, MURFREESBORD
 CLEVELANO, ROBERT V, MURFREESBORD
 CLEVELANO, ROBERT V, MURFREESBORD
 CUNNINGHAM, JUHN THOS, MURFREESBORD
 OLION, JOHN HEMMAN, MURFREESBORD
 OLION, JOHN HEMMAN, MURFREESBORD
 OLION, JOHN HEMMAN, MURFREESBORD
 OLYON, JOHN HEMMAN, MURFREESBORD
 GARRISON, KEPNARD S, MURFREESBORD
 OLYON, JOHN HEMMAN, MURFREESBORD
 GARRISON, KONDEN C, MURFREESBORD
 GARRISON, KURMAD S, MUUDBURY
 MACKMAN, ROBT MEINY, MURFREESBORD
 GARRISON, RUBUS J, MURFREESBORD
 GEEN, KICHMAD S, MOUDBURY
 MACKMAN, ROBT MEINY, MURFREESBORD
 HERFINGTON JA, CHAS EDWARD, MURFREESBORD
 HERFINGTON JA, CHAS EDWARD, MURFREESBORD
 HERFINGTON JA, CHAS EDWARD, MURFREESBORD
 HONNSBY, KUBERT PRESTUN, MURFREESBORD
 HONNSBY, KUBERT, MURFREESBORD
 HONNSBY, KUBERT, MURFREESBORD
 KENDEN, JAMES CANNERS BODD HONNSBORD
 KENDEN, JAMES CANNERS BODD HONNSBORD
 KENDEN JAMES CANNERS BODD HONNSBORD
 MURFREESBORD
 HONNSBORD HONNSBORD
 MURFREESBORD
 HONNSBORD HONNSBORD
 MURFREESBORD
 HONNSBORD
 MURFREESBORD
 HONNS

SCOTT COUNTY MEDICAL SOCIETY

COFFEY, DAVID R. ANTIDA
MALL, THOMAS K. ONEIDA
MUFF, MAXHELL E. ONEIDA
KLINE, GEO LITTUN, ONEIDA
LEGOS, HONACE MOTT, UNEIU
MCODNALO, 207 L. ONEIDA
PERKINS, MICHAEL, DNEIDA UNEIUA

SEVIER COUNTY MEDICAL SOCIETY

SEVIER CUUNIT MEDICAL SUTTETY
BROADTY RUHT A, SEVIERVILLE
BROADTY RUHT A, SEVIERVILLE
JACOHS JR, JOHN C, SEVIERVILLE
KIDD JR, CHARLES E, SEVIERVILLE
ROACH, CHARLES L, SEVIERVILLE
SMITH, STEVEN M, SEVIERVILLE
SONNER, JOHN L, SEVIERVILLE
VAN ARSDALL, JAMÉS R, SEVIERVILLE
VAN ARSDALL, JAMÉS R, SEVIERVILLE
WALDROP, CHARLES E, PIGEON FORGE

SMITH COUNTY MEDICAL SOCIETY

SMITH COUNTY MEDICAL SUCI RATTON, ¿OGAR K, MAKTSVILLE GREEN, HUGH E. CAKTHAGE HAMK, STEVEN E. CARTHAGE JACKSON, AILLIAM S, CAKTHAGE MURRAY, WOBEKT, CARTHAGE PETTY JP, DAVID G. CARTHAGE PETTY DAVID G. CARTHAGE * RECTOR. LEE THORNTON. NEW SMYRNA BCH. FL WILLIS, MARSHALL R. LEBANON

SULLIVAN COUNTY MEDICAL SOCIETY

- SULLIYAR DUURIT MEDIUAL SUBJECT
 ADMINS, MESLEY F, BRISTOL
 AGUIRRE, UENNIS MANUAL, BRISTOL
 ALLEY, EOMOND LYNN, KINGSPORT
 ARMSTRONG, JOSEPH R, BRISTOL
 BACKER, PICHARD DUULEY, KINGSPORT
 BANDELAN, JOHN J, BRISTOL
 BACKER, PICHARD DUULEY, KINGSPORT
 BANDEIAN, JOHN J, BRISTOL
 BARNES, NALAN, KINGSPORT
 BELL, HILLIAM M, KINGSPORT
 BELL, HILLIAM M, KINGSPORT
 BICE, CHAS POHT, KINGSPORT
 BICE, CHAS POHT, KINGSPORT
 BICKENSTAFF, THERON, KINGSPORT
 BOCKIAN, HERBERT HARQUO, BRISTOL
 BOCKIAN, HERBERT HARQUO, BRISTOL
 BOLING, FREDERICK F, KINGSPORT
 BOOKIAN, HERBERT HARQUO, KINGSPORT
 BOURE, GALY, BRISTOL
 BOLYE, GALY, BRISTOL
 BOYO, ARTHUR MORGAN, KINGSPORT
 BOUGE, GAHY, KINGSPORT
 BOUGE, SAMEL OAVIO, KINGSPORT
 BREDING, SAMEL OAVIO, KINGSPORT
 BRINLEY, BILLY BOOTH, BRISTOL
 BROCK JOH, HOLE, BRISTOL
 BROCK JOH, HOLE, KINGSPORT
 BROMW, HENRY JAMES, KINGSPORT
 BROMW, HENRY JAMES, KINGSPORT
 BROMW, HENRY JAMES, KINGSPORT
 BROWN, DOBT H, HENGERSONVILLE, NC
 BUDDINGTON, KICHARD S, BRISTOL
 BROWN, HENRY JAMES, KINGSPORT
 BROWN, BOST H, HENGERSONVILLE, NC
 BUDDINGTON, KICHARD S, BRISTOL
 CARLORELL, RUVALD DAVID, BRISTOL
 CARRENEN JOHN G, BRISTOL
 CARRENEN AUGUSTIN, BRISTOL
 CARRENEN, JOHN G, BRISTOL
 CARRENEN, BACKER, KINGSPORT
 CASEY, GARY QUILLEN, KINGSPORT
 CASEY, GARY QUILLEN, KINGSPORT
 CHAMBER, JOHN M, WINGSPORT
 CON, DAVID ANTHONY, KINGSPORT
 CON, DAVID ANTHONY, KINGSPORT
 CON, DAVID ANTHONY, KINGSPORT
 CON, DAVID ANTHONY, KINGSPORT
 CONGO, JUNGSPORT
 GROWN, BENNETT YOUNG, BRISTOL
 CREME, JAMES LAAKENCE, BRISTOL
 GERN, DAY, MAY KINGSPORT
 GRANDEY, FRANK SEVIER, KINGSPORT
 GRANDEY, AND PAUL, KI

HIRE, ERVIN A, KINGSPORT
HOBEEK, PHILLIP FRANKLIN, RUANDKE KAPIO, NC
HOFFENNOK, JACK M. 8X15TOL
HOGAN JR, MARSHALL DAVIS, KINGSPORT
HUDSON, HARY O, JOHNSON CITY
HUDSON, HILLIAM JUDGLEY, KINGSPORT
JACKSON JK, HERRY GUY, KINGSPORT
JACKSON JK, HERRY GUY, KINGSPORT
JACKSON JK, HERRY GUY, KINGSPORT
JAMISON, KING ARCY, BRISTOL
JARVIS, ROY JUE, KINGSPORT
JAYNE JR, J LAWENCE, HAISTOL
JERNICAN, ROBET H, KINGSPORT
JAYNE JR, J LAWENCE, HAISTOL
JERNICAN, ROBET H, KINGSPORT
JEWELL, NEAL A, SKINGSPORT
KIELLY, ROWLE HAIDLIE, KINGSPORT
KEITH, RUBIT EARL, KINGSPORT
KEITH, RUBIT EARL, KINGSPORT
KIESAU, KENNETH RUDOLPH, KINGSPORT
KIESAU, KENNETH RUDOLPH, KINGSPORT
KING, JOS AUSIN, KINGSPORT
LAPIS, JAMES L, BRISTOL
LUNGY, KENTIT, BRISTOL
HORDER
LAPP, JOHN NAW, KINGSPORT
MACOUNA, JOS KENTETH, KINGSPORT
MCCONALO, R SCOTT, KINGSPORT
MCCONALO, R SCOTT

SOLOMON, DALE E, KINGSPORT SPEAK, JOHN MICHAEL, BRITSOL

SPRINGER, DOUGLAS JOHN, KINGSPORT
STRADER, LURENZO O, BRISTOL
STRANG JR, ROBERT T. KINGSPORT
STRANG, RUBT TUDDA, KINGSPORT
STUBBS, HAL SESSION, BRISTOL
SULLIVAN, HUGH MILLTON, KINGSPORT
SULLIVAN, HICHAEL JUUL, KINGSPORT
SULLIVAN, HICHAEL JUUL, KINGSPORT
TALTON JR, MRUDKS M. KINGSPORT
TALTON JR, MRUDKS M. KINGSPORT
TOOTHMAN, CLARA J. FAKISTOL, VA
TOODO, THUS C. BRISTOL
TOOTHMAN, CLARA J. FAKISTUL, VA
TURNER, HARRISON O. KINGSPORT
VANCE JR, FREDERICK V. BRISTOL
VANCE, DOUGLAS ODARIOT, BRISTOL
VANCE, DOUGLAS ODARIOT, BRISTOL
VERMILLION, JAMES S. KINGSPORT
VOTH, MICHAEL K. KINGSPORT
MADEAITZ, PETER, KINGSPORT
MADEAITZ, PETER, KINGSPORT
MESTERFIELD, LAPRY M. KINGSPORT
MESTERFIELD, LAPRY M. KINGSPORT
MHISNANT, MM HOMAPO, BRISTOL
MHITTH HIRAM JACKSON, KINGSPORT
MHITTH HIRAM JACKSON, KINGSPORT
MIKE, SIONEY ALEVED, BRISTOL
MILLIAMS, HOMER P. BPISTOL
MILLIAMS, HOMER P. BRISTOL

WIKE, SIONEY ALERED, BRISTOL WILLIAMS, HOMER P, BPISTOL WILLIAMS, UNAN THUMPSON, BRISTOL WILLIAMS, BRISTOL WILSON, IN AMES THOMAS, BRISTOL WILSON, EARL K. 9KISTOL WILSON, JUHN AAPON, KINGSPORT WINSOR, MICHAEL JON, KINGSPORT WOLEE, JAMES N. KINGSPORT WYKER, AKTHUR TOWNSEN, KINGSPORT YYKER, WITHER TOWNSEN, KINGSPORT WYKER, WITHER TOWNSEN, KINGSPORT WOON. YOUNG, RUTH T. KINGSPORT ZAIOI, SAKERAZ ALI, BRISTOL

SUMNER COUNTY MEDICAL SOCIETY

SUMNER COUNTY MEDICAL SOCIETY

ANADOAIAH, K.M. HENDERSONVILLE
BHAGAVAN, NUGGAEHALLEY K. GALLATIN
BROWN, LLUYD TYNTE, GALLATIN
CAGLE, DIEÜME, UALLATIN
CAREY JR., JACK NILLARU, HARTSVILLE
CARNACK JR., JAMES H. HENDERSONVILLE
CARTER, THOS EOSTER, WESTMORELAND
CASE JR. KENNETH RYDN, GALLATIN
DITTES, ALBERT G. PURTLAND
ELYNN, JUMN, HENDERSONVILLE
GODOIN, ELLIS LEN, GALLATIN
HILL, TEO M. GALLATIN
HODPER JR. MAYNE, GALLATIN
HUEEMAN, CHARLES J. HENDEPSUNVILLE
KARALAKULASINGAM, PAJAH, PORTLAND
KELLEY, IKA N. CARTHAGE
KING, A SIDNEY, GALLATIN
LAOO, JAMES TRUBLE, PORTLAND
LANY, ELMIN, HENDERSONVILLE
LILLY, JAMES AARIN, GALLATIN
MOSSEY, MR ROE, GALLATIN
MOSSEY, MR ROE, GALLATIN
MOSSEY, MR ROE, GALLATIN
MOSSEY, MR ROE, GALLATIN
MORE, JAMES N. MITE HOUSE
PARASMANATH, 3 S., GALLATIN
MORRE, JAMES N. MITE HOUSE
PARASMANATH, 3 S., GALLATIN
SONGE, LU, PJRILANU
RUARK, CHARLES S. OLD HICKORY
RUCKLE, H. PORTLAND
SANDERS, CLARENCE PAMEY, GALLATIN
STEMAR, MR ALPH M. PORTLAND
STITH, GYLE, GALLATIN
SPENCER, CHARLES S. OLD HICKORY
RUCKLE, H. PORTLAND
SANDERS, CLARENCE PAMEY, GALLATIN
SPENCER, CHARLES NURMAN, GALLATIN
STEPHENSON, MALTER H. GALLATIN
STEPHENSON, MALTER H. GALLATIN
STEPHENSON, MALTER H. GALLATIN
THOMPSON, JOHN K. GALLATIN
THOMPSON, JOHN K. GALLATIN
THOMPSON, JOHN K. GALLATIN
THOMPSON, JOHN K. GALLATIN
TOOD, MALEPEU, GALLATIN
THOMPSON, JOHN K. GALLATIN
TOOD, MALEPEU, GALLATIN
THOMPSON, JOHN K. GALLATIN
THOM COUNTY MEDICAL SOCIETY

TIPTON COUNTY MEDICAL SOCIETY

TIPTON COUNTY MEDICAL SOCIETY

ALEXANDER, WARPEN ALISON, COVINGTON

BEASLEY, JIMHIE L. COVINGTON

ROLTON, TRAVIS LEON, COVINGTON

RROEFITT, SAMUEL L. COVINGTON

CANTRELL, JOHN E. COVINGTON

GOOGE, FLETCHER HIJWARD, BILLINGTUN

HO, JUIN H. COVINGTON

HYATT, NORMAN LYLE, COVINGTON

JANOVICH, JOHN R. COVINGTON

MATTHEWS, JUSEPH BARRET, COVINGTON

MATTHEWS, JUSEPH BARRET, COVINGTON

MCCULLOUGH, BILLIE S. COVINGTON

MCCULLOUGH, BILLIE S. COVINGTON

WEEEN JR, JAMES S. COVINGTON

VIPRAKASIT, DEJD, COVINGTON

VIPRAKASIT, SUTTIWARA, COVINGTON

WITHERINGTON JR, A S. MUNFORO

WITHERINGTON JR, A S. MUNFORO

WITHERINGTON JRMES D. COVINGTON

WADDEN COUNTY MEDICAL COCIETY

WARREN COUNTY MEDICAL SOCIETY

ACKROYO, ALAN M, KOCK ISLAND RIGPEF, MALLACE BUPNS, MC MINNVILLE BIGFEE, WALLACE BUPNS, MC MINNY BRATTON, DAVID 4, MC MINNYILLE BURCK JP, MARKY 5, MC MINNYILLE CATEN, JUSEPH, MCMINNYILLE

DAVIS, W GLENN. MCMINNVILLE
EISHEW, JUS F. MC MINNVILLE
GGWFR. DANNIE HELDEN, MCMINNVILLE
GLOVER. DANNIE HELDEN, MCMINNVILLE
HAPRIS, HUYT G. MC MINNVILLE
JACOBS. G JACKSON. MCMINNVILLE
JACOBS. G JACKSON. MCMINNVILLE
EMNIES, JIMY F. MCMINNVILLE
KNOWLES JR. HILLIAM W. SMITAVILLE
MUDRE, JAMES L. MC MINNVILLE
MUKHERJI. BAKUNDITYA. MC MINNVILLE
PHILLIPS, JAMES ENGREE MC MINNVILLE
PHILLIPS, JAMES ENGREE MC MINNVILLE
REGEVES. KUBEPT D. MURFREESBURG
MHINEHAPT. MAKGYET MENN. SPENCER
SMOOT, RETHEL CAMPAELL. MC MINNVILLE
TROOP JR. JDE PAYMOND, MC MINNVILLE
WINTERS. DEBURAM ANN. MCMINNVILLE

WASHINGTON-UNICOI-JOHNSON COUNTY

MEDICAL ASSOCIATION

AHMAD, 10MASON CITY
ALISMN GEOBRAM, JOHNSON CITY
ALISMN GEOBRAM, JOHNSON CITY
ALISMN, GEOBRAM, JOHNSON CITY
ALLEN, CHAS EDARAG, JUNNSON CITY
ALLEN, CHAS EDARAG, JUNNSON CITY
ANDERSON, JOHN L. JUNNSON CITY
ANDERSON, JOHN L. JUNNSON CITY
ANDERSON, JOHN L. JUNNSON CITY
ANTILE JR, JAMES MATNER, JOHNSON CITY
BATTLE, GAY KINCHNER, GRAY
BEAVER, ALLER RICHARD, JOHNSON CITY
BEAVER, ALTER RICHARD, JOHNSON CITY
BERPY, ROYCE M, JOHNSON CITY
BOELEN, LJUIS J, JOHNSON CITY
BOELEN, LJUIS J, JOHNSON CITY
BOWMAN, JUSEPH M, SINGER ISLAND, EL
RRIDGECENTH JR, MA ADAMS, JOHNSON CITY
PROWN JR, PAUL EDARPD, JUNNSUN CITY
RROWN JR, PAUL EDARPD, JUNNSUN CITY
RROWN JR, PAUL EDARPD, HUNTINGTON, AV
BOWMAN, JUSEPH M, JOHNSON CITY
CAMPACHLO, PETEV M, JOHNSON CITY
COLLEAR, VOST L, JUHNSON CITY
COLLAR, VOST L, JUHNSON CITY
COLLY
COLLAR, VOST L, JUHNSON CITY
COLLOR, LYMAN AVANO, MOUNTAIN HOME
CARLADO, SATON LARRAM, JUHNSON CITY
COLLING JP, CLARENCE F, JUHNSON CITY
HUNDLESTON, JAMES M, JUHNSON CITY
HUNDLESTON, JAMES M, JUHNSON CITY
HARRY, JAMES M, JUHNSON CITY
HARRY, JAMES M, JUHNSON CITY
HUNDLESTON, JAMES M, JUHNSON CITY
HUNDLESTON, JAMES M, JUHNSON CITY
HUNDLESTON, JAMES M, JUNNSON CITY
HUNDLESTON, JAMES M, JUNNS

JONES, DAVID W, JOHNSON CITY
JONES, JAMES SPENCER, JOHNSON CITY
JORDAN JR, L COLLIER, JOHNSON CITY
KEMMEDY, WM ENNIS, JOHNSON CITY
KIMBROUGH, BERMARARA O, JOHNSON CITY
KIMBROUGH, STEPHEN M, JUHNSON CITY
LAMSON, JUHN FULLER, JOHNSON CITY
LAMSON, JUHN FULLER, JOHNSON CITY
LINES, LAURENCE G, JOHNSON CITY
LLOYO, JACQUELINE JORDAN, JOHNSON CITY
LOPEZ, ALEGNSU D, JUHNSON CITY
LOPEZ, ALEGNSU D, JUHNSON CITY
MADEN, WILLIAM L, JUHNSON CITY
MADEN, WILLIAM L, JUHNSON CITY
MATHES JR, WM T, JOHNSON CITY
MCGUMAN JK, WINFURD K, JOHNSON CITY
MCGUMAN JK, WINFURD K, JOHNSON CITY
MCGUMAN JK, WINFURD K, JOHNSON CITY
MCGOMAN, JOBSON C, JOHNSON CITY
MCGOMAN, JOBSON C, JOHNSON CITY
MCGOMAN, JUDSON C, JOHNSON CITY
MCGOMAN, JUDSON C, JOHNSON CITY
MCGOMAN, JUDSON C, JOHNSON CITY
MCKEE, THOMAS PRESTON, JOHNSON CITY
MCKEE, THOMAS PRESTON, JOHNSON CITY
MCHEKS, EDWIN A, JOHNSON CITY
MILLER, JOHN MC CLELLAN, JOHNSON CITY
MILLER, JOHN MC CLELLAN, JOHNSON CITY
MILLER, JOHN MC CLELLAN, JOHNSON CITY
MONTENEGRO, FWANKLIN, JUHNSON CITY
MONTENEGRO, FWANKLIN, JUHNSON CITY
MONTENEGRO, FWANKLIN, JUHNSON CITY
MORSS JR, HARRY CUBAN, JOHNSON CITY
MORSS JR, HARRY CUBAN, JOHNSON CITY
MYERS, MAKION K, JOHNSON CITY
MYERS, TIRRY L, JOHNSON CITY
MYERS, TIRRY L, JOHNSON CITY
MYERS, MAKION K, JOHNSON CITY
MYERS, TIRRY L, JOHNSON CITY
PATEL, PRAVINCHANDRA H, JOHNSON CITY
RESCE, KICHARD R, JOHNSON CITY
RESCE, KICHARD R, JOHNSON CITY
RESCE, KICHARD R, JOHNSON CITY
ROS, JAMES ARTHUR, JOHNSON CITY
SAMS, JAMES ARTHUR, JOHNSON CITY
SAMS, JAMES ARTHUR, JOHNSON CITY
SHELON, LAWN DILLARD, JOHNSON CITY
SHELON, LAWN MICHAEL, JOHNSON CITY
SHELON, FRANK MICHAEL, JOHNSON CITY
S

SHERROD, HOWELL HODD, JOHNSON CITY
SHOLES JR, DILLARO M, JOHNSON CITY
SIOKY AFIFI, HAMMOUD, JOHNSON CITY
SOIKE, DAVIO K, JOHNSON CITY
SOIKE, DAVIO K, JOHNSON CITY
SPANCE, GEORGE IAN, JOHNSON CITY
STEFNER, EDWARD BENJ, JOHNSON CITY
STEFNER, EDWARD BENJ, JOHNSON CITY
STINE, OSCAR C, JOHNSON CITY
THUR DE KOOS, PAUL, JOHNSON CITY
THUR DE KOOS, PAUL, JOHNSON CITY
VARNEY, FRANK T, JOHNSON CITY
VERMILLION, STANLEY E, JOHNSON CITY
WARDER JR, CLAYTON J, JOHNSON CITY
WARDER, FRANK T, JOHNSON CITY
WARDER, FRANK T, JOHNSON CITY
WARDER, FRANK T, JOHNSON CITY
WASTER, PHIL VERMON, JOHNSON CITY
WASTER, PHIL VERMON, JOHNSON CITY
WHEN, CLINTON STEVE, JOHNSON CITY
WHITE, NORMAN EUGENE, JOHNSON CITY
WHITTOCK, JOHN L, MUUNTAIN CITY
WHILLIAMS, HICHAEL L, JOHNSON CITY
WHILLIAMS, GALEX, JUHNSON CITY
WILLIAMS, GALEX, JUHNSON CITY
WILLIAMS, HAND WARD MAY JOHNSON CITY
WILSON, DAVID M, JOHNSON CITY
WILSON, JAMES MARION, JOHNSON CITY
WOOD, JAMES FOWLE, JOHNSON CITY
WOOD, JAMES FOWLE, JOHNSON CITY
WYCHE, DONALD B, JOHNSON CITY
WYCHE, DONALD B, JOHNSON CITY
WYCHE, DONALD B, JOHNSON CITY
WYCHE, MAY, JOHNSON CITY
WHITE COUNTY MEDICAL SOCIETY
WHITE COUNTY MEDICAL SOCIETY

WHITE COUNTY MEDICAL SOCIETY

* ANDREWS, W. H., SPARTA
BAKER, ROBERT F., SPARTA
BRADLEY, OONALD HUGHES, SPAKTA
BRAMLETT, DAN J., THOMASTON, GA
JOHNSON, JOLE F., SPARTA
MITCHELL, CHARLES A., SPARTA
NESBETT, GILLY C., SPAKTA
**ROBERTS, CHARLES A., SPARTA
**ROBERTS, CHARLES A., SPARTA
HALL, GEORGE T., SPARTA

WILLIAMSON COUNTY MEDICAL SOCIETY

AZARAN, AGOOL HASAN, FRANKLIN BETHURUM, ALYA JEFFERSON, FRANKLI BROUKS, AKTHUK SCUTT, FRANKLIN CASPARIS, ANTHONY DRAKE, FRANKLIN FRANKLIN CLARKE, LOIS, FRANKLIN CURTIS, SHANNON, FRANKLIN ENCKE, HM F. FRANKLIN

EVINS, STARLING CLAUDE, FRANKLIN
FERRELL, M CRAIG, FRANKLIN
GREER JR, FULTON M, FRANKLIN
GUFFEE, HARRY JASPER, FRANKLIN
MALEY, FRED L, FRANKLIN
HIMMELFARB, ELLIOT HARVEY, FRANKLIN
HOLLISTER, ROBT MORRIS, FRANKLIN
HOLLISTER, ROBT MORRIS, FRANKLIN
KENNEDY, JAMES S, FRANKLIN
LAMF, RICHARD GEOFFREY, FRANKLIN
LAMF, RICHARD GEOFFREY, FRANKLIN
MANSON, JAMES EOMARO, FRANKLIN
MCOANIEL, WILLIAM R, BRENTWOOD
MENEELY, RAYMOND L, FRANKLIN
METTETAL JR, RAY M, FRANKLIN
MILLER, PHILIP G, FRANKLIN
MISHU, MONA KIRMA, SPRING HILL
MOSS JR, JOE PERSIUS, FRANKLIN
NULLINS, M MICHAEL, FRANKLIN
NULLINS, M MICHAEL, FRANKLIN
NAGY, HUBA, FRANKLIN
NOCHAM, RUBERT KENNETH, FRANKLIN
OMOHUNDRO III, JOHN M, FRANKLIN
OMOHUNDRO III, JOHN M, FRANKLIN
ORR, OOUGLAS MAYNE, FRANKLIN
SAVAGE, H BRYANT, FRANKLIN
SAVAGE, H BRYANT, FRANKLIN
SALLING, WILLIAMS, MAYNE PATRICK, FRANKLIN
WILLOUGHBY, JOS LEEPER, FRANKLIN
YORK, OOUGLAS CLIFTON, FRANKLIN
YORK, OOUGLAS CLIFTON, FRANKLIN

WILSON COUNTY MEDICAL SOCIETY

WILSON COUNTY MEDICAL SOCIETY
BLOEGEL, CARLA, LEBANON
BRAOSHAM JR, JAMES C, LEBANON
BRYANT, JOE FRANK, LEBANON
FERGUSON, MORRIS OBAN, LEBANON
GRIME, HARVEY H, LEBANON
JACKMAN, ROGER L, LEBANON
JACKMAN, ROGER L, LEBANON
LANNING JR, CHARLES &, LEBANON
LANNING JR, CHARLES &, LEBANON
LOVELESS JR, JAMES PORTER, LEBANON
LOVELESS JR, JAMES ALVA, LEBANON
MARTIN, GEORGE C, LEBANON
MARTIN, GEORGE C, LEBANON
MCKINNEY, ROGER E, LEBANON
MCKINNEY, ROGER E, LEBANON
MCKINNEY, ROGER E, LEBANON
MORRIS II, JAMES M, LEBANON
ROGERS, CARL H, LEBANON
SNITH, SAMYY H, LEBANON
SNITH, SAMYY H, LEBANON
TAYLOR, SIEPHEN L, LEBANON
TAYLOR, BILLY JAMES, LEBANON
TURNER, ROBERT PHILLIPS, NASHYILLE
WIGGINS, BERNARD A, LEBANON
WOODFORD, HUMARD DOUGLAS, LEBANON
MOODFORD, HUMARD DOUGLAS, LEBANON

DECEASED PHYSICIANS—1985

ANDERSON JP. SAM B. MEMPHIS
ANDERSON, ROBT S. NASHVILLE
BACHMAN, HARPY WILSON, BRISTUL
BARHAM, WM STANLEY. MUREREESBOPU
BUCHER, PICHARD. ELIZABETHTON
BUOD. GARNET J. JOHNSON CITY
COOLIDGE, LERBY E. WILDWOOD, GA
CROCKER. ROBT A. MEMPHIS
EVERSOLE. MM CLEGG, KINGSPORT
FIDELHOLTZ, JACOB NURMAN, NASHVILLE

FRANCIS, SUY M, CHATTANDUGA
GREEN, SOUTHGATE WM, KNDXVILLE
GUPTON JR, WM FOMIN, NASHVILLE
MINES, ELBERT EDMIN, MEMPHIS
KEETON, ROBERT TAYLOR, PRUCETON
LAMB, MILLIAM A, KINGSPURT
LANCASTER, AUGUSTUS H, KNDXVILLE
MILLER, EDMIN E, KNDXVILLE
MILLER, HAKOLD RAY, MEMPHIS
NOVINGER, GEORGE T, GREENEVILLE
PATTERSON JR, RUSSELL H, MEMPHIS

RABIN, DAVIO, NASHVILLE
RHEA SK. HAL SALE, MEMPHIS
ROBERTSO, FRANK L. MEMPHIS
ROBERTSON, JAMES H. MCKENZIE
ROBERTSON, JAMES THOS. MEMPHIS
SCHEINBERG, DAVID FRSHL, MEMPHIS
SCHROFF, JEKUME. MEMPHIS
SELIGSTEIN, MILTON B. MEMPHIS
SHIPLEY, ALEX B. KNOXVILLE
SHIPLEY, ALEX B. KNOXVILLE
VARNELL, GILBERT ABEL, CLEVELAND
YOUNG JR. JOHN D. MEMPHIS

INDEX TO VOLUME 78

PAGES BY ISSUE

January 1-58 February 59-124 March 125-188 April 189-260	May 261-326 June 327-408 July 409-470 August 471-540	September 541-602 October 603-674 November 675-738 December 739-812
	INDEX OF AUTHORS	
Aaby, Gene V	Gibson, James W	Oster, Cathy
Freemon, Frank R	Nelson, Henry S., Jr. .639 Nunn, Stewart L. .219 O'Brien, Marianne .16	Woodard, Henry.99Worrel, Theophilus.491Wyler, Allen R.751

INDEX OF SUBJECTS

Abbreviations: "ed" for editorial; "(*)" for original article; "pp" for president's page; "si" for special item; "AM-85" for AMA 1985 annual meeting.

Alzheimer's Disease	Continuing Medical Education Opportunities 50, 116, 182,
Alzheimer's disease—a major health problem(*)	254, 312, 400, 457, 531, 595, 667, 730, 776
dementia of the Alzheimer's type: clinical overview (*)13	Costs, Health Care (See also Health Care)
management of Alzheimer's disease (*)	on promising a rose garden (ed)
specialized management of the Alzheimer's disease	son of pizroe (ed)
patient: does it make a difference? (*)559	the select committee (pp)
American Medical Association	to belong or not to belong (ed)246
a call to arms (ed)	CT Scan of the Month
Chicago 1985: a report from the AMA	achalasia
House of Delegates (ed)	leiomyosarcoma of the stomach
enough is enough—address of AMA president (si)151	multiple calcified hepatic lesions510
from high times to low: a view from the toboggan (ed)723	squamous cell carcinoma of the lung with
to belong or not to belong (ed)246	adrenal metastasis
weathering the storm—address of AMA president (si)566	tuberculous meningitis
Announcements	Drugs
452. 528. 589, 661, 728. 775	chemical dependency: a concept of a primary disease
Boxing	with a singular natural history
cockfighting and boxing: a parallel and paradox (si) 210	chemical dependency and the impaired physician (ed)658
on climbin' Jacob's ladder (ed)	colors (ed)
Bureaucracy	phenothiazine associated hyperthermia (*)489
back to basics (pp)381	psychotropic drug use in older people
in the name of the law (ed)446	Editorials
from high times to low: a view from the toboggan (ed)723	a call to arms
son of pizroe (ed)	a medical grand present
work like hell and advertise (ed)306	an ounce of prevention
Cancer	and into the twenty-first
adenocarcinoma of the esophagus associated with	chemical dependency and the impaired physician
neurofibromatosis (*)	Chicago 1985: a report from the AMA
bilateral Wilms' tumor: 18-year follow-up of patient	House of Delegates
treated only with surgery (*)	colors
osteogenic sarcoma of the breast (*)422	daytime thoughts on listening to Beethoven's ninth:
pancreatic carcinoma presenting with isolated	up the slough and out again40
bleeding gastric varices (*)81	from high times to low: a view from the toboggan723
scalene node biopsy. Nashville experience with (*)73	giving, getting, and forgetting772
Cardiovascular Disease (See also EKG. Med Grand Rounds)	guest editorial
Gore-Tex femoropopliteal grafts (*)	happy second half of the 1980s
subconjunctival hemorrhage, periorbital ecchymoses,	in the name of the law446
and facial petechiae following cardioversion (*)619	intimations of immortality
Child Abuse	on beating a dead horse
child abuse (pp)585	on being human
chronic pain in adults with a history of childhood	on climbin` Jacob's ladder249
sexual abuse (*)	on doing something about the weather172
on beating a dead horse (ed)173	on promising a rose garden
Communication	rediscovering lost loves
an ounce of prevention (ed)	remove not the ancient landmarks
colors (ed)107	semi-literate illegitimacy, or, illegitimate
guest editorial450	semi-literacy
heavy metal: a new religion (si)	son of pizroe
on beating a dead horse (ed)173	special spouse space
semi-literate illegitimacy, or illegitimate	state medical board minutes
semi-literacy (ed)	sweet bitterness (or bitter sweetness)
Conservation	the cattle on a thousand hills
and into the twenty-first (ed)	to a flying fortress
remove not the ancient landmarks	to belong or not to belong

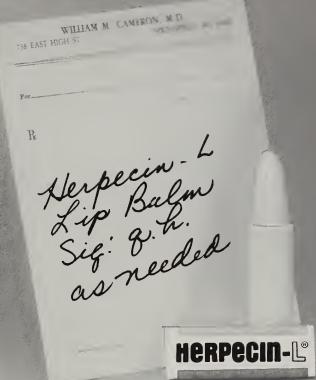
DECEMBER, 1985 803

work like hell and advertise	remove not the ancient landmarks (ed)447
EKG of the Month	the development of clinical neurology in Tennessee (*)78
right bundle branch block with cardiac	Thomas Thetcher's tombstone (mail box)660
allograft rejection646	to a flying fortress (ed)
ventricular ectopy associated with urinary	Hypersensitivity
bladder distension	Henoch-Schonlein purpura—a review (*)615
Environment (See Conservation)	Hypertension, a public health problem
Extracorporeal Shock Wave Lithotripsy	Hyperthermia, phenothiazine associated (*)489
current management of renal calculi (*)553	IMPACT (See Political Action)
Gastroenterology	Impaired Physicians
pancreatic carcinoma presenting with isolated	chemical dependency: a concept of a primary disease
bleeding gastric varices (*)	with a singular natural history
Geriatric Medicine	chemical dependency and the impaired physician (ed)658
exercises in the elderly—benefits, precautions	Infectious Diseases
and recommendations	acute endogenous endophthalmitis after splenectomy (*)25
health care for older citizens: overcoming	chlamydia in Tennessee health department clinics648
barriers	Insurance
home health care vs nursing home care of the elderly227	
	durable medical equipment reimbursement changes (si)460
psychotropic drug use in older people	electronic media claims (*)
Geriatrics (See also Geriatric Medicine, Alzheimer's Dis)	In Memoriam
the elderly deserve our compassion (pp)	527, 588, 661, 727, 774
tuberculosis in nursing homes	Lead Poisoning, from the betel nut (*)
Gynecology (See Obstetrics)	Legislation
Health Care	in the name of the law (ed)
a call to arms (ed)	Library Consultants, health information services
a survey of health promotion programs of	provided by Tennessee consultants (*)276
Tennessee employers (*)27	Loss Prevention Case of the Month
back to basics (pp)	communication through the record97
contracting questions for physicians—alternate	if only I had seen him161
delivery systems (si)211	legal suicide. weapon: the medical record711
developmental screening and referral practices of	our goal: preventing or minimizing patient injury232
physicians in Tennessee (*)141	responsibilities of prescribing
enough is enough—address of AMA president (si)151	the good doctor—the bad result
facing the future (pp)	tighten up your office protocol645
I have what?—illness and the medical profession	twice the doctors, half the care514
(whom I admire) (si)	vicarious liability and the physician's assistant31
our declining image (pp)446	warning signs unheeded
satellite and commercial medical clinics (AM-85)628	without a quarterback—you lose!
teenagers (pp)	Mail Box
the answer: patient care (*)	Malpractice (See Loss Prevention)
weathering the storm—address of AMA president (si)566	Medical Clinics, Satellite and Commercial (AM-85) 628
work like hell and advertise (ed)	Medical Grand Rounds
	acute lymphoblastic leukemia: determinants of
Health and Environment Report	
chlamydia in Tennessee health department clinics648	response to therapy
genetics program, statewide	CABG: have the indications changed?
high risk registry update	cyanotic congenital heart disease in adults
hypertension—a public health problem	peptic ulcer disease, update on
immunization survey of 24-month-old children for 198499	Mental Health (See also Alzheimer's Disease,
indoor air pollution health problems	Impaired Physicians)
infant high risk registry in Tennessee	an ounce of prevention (ed)
oral disease in Tennessee	chronic pain in adults with a history of childhood
prenatal program serving low-income pregnant	sexual abuse (*)
women in Tennessee712	heavy metal: a new religion (si)
southern regional task force on infant mortality164	National News42
tuberculosis in nursing homes	Neurology
Hematology	clinical, development of in Tennessee (*)78
Henoch-Schonlein purpura—a review (*)615	spondylolisthesis after spinal fusion with an
subconjunctival hemorrhage, periorbital ecchymoses	intact neural arch (*)
and facial petechiae following cardioversion (*)619	the surgery of epilepsy (*)
History	New Members
a centennial celebration: Pasteur and the modern	385, 450, 528, 589, 661, 727, 774
era of immunization	Obstetrics
intimations of immortality (ed)	deterrents to early prenatal care: a comparison of
Louis Pasteur commemorated on French five	women who initiated prenatal care during the first
franc note (*)	and third trimesters of pregnancy (*)691
11 man 10 to ()	and third difficulties of problemity ()

prenatal program serving low-income women in	Surgery (See also Trauma Rounds
Tennessee	acute endogenous endophthalmitis after splenectomy (*)25
rupture of the liver in preeclampsia (*)	bilateral Wilms' tumor: 18-year follow-up of
Pain, chronic, in adults with a history of	patient treated only with surgery (*)135
childhood sexual abuse (*)493	evolution of toe-to-hand transfer (*)
Pasteur, Louis	Gore-Tex femoropopliteal grafts (*)
a centennial celebration: Pasteur and the modern	osteogenic sarcoma of the breast (*)
era of imunization	rupture of the liver in preeclampsia (*)419
commemorated on French five franc note (*)622	scalene node biopsy, Nashville experience with (*)73
Pediatrics (See also Child Abuse)	spondylolisthesis after spinal fusion with an
an ounce of prevention (ed)	intact neural arch (*)496
developmental screening and referral practices of	the surgery of epilepsy (*)
physicians in Tennessee (*)141	varicose veins (mail box)
heavy metal: a new religion (si)	Tennessee Medical Association
southern regional task force on infant mortality164	annual meeting timetable
teenagers (pp)	community service awards, 1985353
Personal News	component medical society officers, 1985-1986395
588, 727, 775	distinguished service awards, 1985
Physician Manpower (mail box)	highlights of the Board of Trustees meeting—
Physician's Assistants	January 12-13, 1985179
vicarious liability and31	highlights of the Board of Trustees meetings—
(mail box)250	April 10 and 13, 1985
Physician's Recognition Award Recipients 42, 110, 176, 252,	highlights of the Board of Trustees meeting—
309, 385, 451, 527, 589, 661, 728, 775	July 14, 1985592
Placement Service	highlights of the Board of Trustees meeting—
405, 467, 537, 599, 671, 735, 809	October 13, 1985778
Plastic Surgery (See Surgery)	house of delegates, composition (annual meeting)35
Political Action	house of delegates, index to proceedings
we can maintain control of our destiny (pp)721	(annual meeting)34
President's Page	house of delegates, proceedings (annual meeting)343
a salute to our spouses	membership statistics—October 1985
back to basics381	officers and committees, 1985-1986396
child abuse	our medical association (pp)
facing the future	outstanding physician of the year, 1985
our declining image445	Tennessee Medical Association Auxiliary
our medical association171	a salute ot our spouses (pp)65
teenagers37	special spouse space (ed)
the elderly deserve our compassion523	unity = strength
the select committee	Trauma Rounds
the swan song243	blunt anorectal injuries in children
we can maintain control of our destiny721	blunt brochial injury, diagnosis and management of 508
Radiology	blunt duodenal disruption224
filling defects in the common bile duct	hepatic trauma99
outpatient digital arteriography in a general	pelvic fractures
community hospital (*)	posttraumatic acalculous cholecystitis
pulmonary tuberculosis with peripheral neuropathy—	splenic salvage
the importance of a lateral chest film	subclavian vascular injuries, management of
Roentgenogram of the Month (See Radiology)	wick catheter compartment measurments in the
Sanders, Clarence R.—the new president (si)244	vascular trauma patient
Scalene Node Biopsy, Nashville experience with (*)73	Tuberculosis
Special Items	extrapulmonary, in Tennessee from 1977-1981—
244, 315, 317, 460, 463, 566, 754, 756	a review of statistical analysis (*)
State Board of Medical Examiners	in nursing homes
in the name of the law (ed)446	Urology
minutes of the Oct. 31, 1984 meeting315	renal calculi, current management of (*)553
minutes of the Feb. 20, 1985 meeting317	Warfare
minutes of the March 19, 1985 meeting	daytime thoughts on listening to Beethoven's
state medical board minutes (ed)	ninth: up the slough and out again (ed)40

DECEMBER, 1985 805

Dx: recurrent herpes labialis



"HERPECIN-L is my treatment of choice for perioral herpes." GP, NY

"HERPECIN-L appears to actually **prevent** the blisters . . . used **soon enough.**" DDS, MN

"HERPECIN-L®...a conservative approach with low risk/high benefits." MD, FL

"Used at prodromal symptoms . . . blisters never formed . . . remarkable." DH, MA

"(In clinical trials) . . . response was dramatic. HERPECIN-L . . proven far superior." DDS, PA

"All patients claimed shorter duration . . . at prodromal symptoms . . . HERPECIN-L averted the attacks." MD, AK

OTC. See P.D.R. for information. For samples to make your own clinical evaluation, write: CAMPBELL LABORATORIES, INC., P.O. BOX 812-MD, FDR STATION, NEW YORK, N.Y. 10150

In Tennessee HERPECIN-L is available at all *Eckerd, Revco, Super D, SupeRx Drug Stores* and other select pharmacies.

GOOD NEWS FOR DOCTORS



If you want a busy practice with no office overhead and little paperwork, then consider becoming a member of the Air Force health care team. You'll find medicine can be a great way of life in the Air Force. We can restore much of the satisfaction to your medical practice because we emphasize patient care instead of paperwork. We even provide professional liability protection under the Federal Tort Claims Act at no cost to you. And your income won't stop should you decide to take your family on vacation. We give you 30 days of vacation with pay each year.

We'd like to tell you more — like how our excellent compensation plan applies to you and your opportunities for specialization. Contact your nearest Air Force medical recruiter for more good news. We'll answer your questions promptly and without obligation.

Contact MSgt. Larry Powers collect: (901) 521-3851 or SSgt. Don Sanders collect: (901) 278-6349



NOT TO CIRCULATE

Non to Checula Aire



